EG1R240310GA

RadiPac - FanGrid Cube

with support bracket

ebm-papst Inc.
100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
www.ebmpapst.us

Nominal Data

Model	EG1R240310GA	
Motor	M3G112-GA	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	3985
Power consumption	W	3233
Current draw	A	8.6
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	102 lb (46.4 kg)
Nominal impeller size	12.2 in (310 mm)
Motor size	112
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Electronic motor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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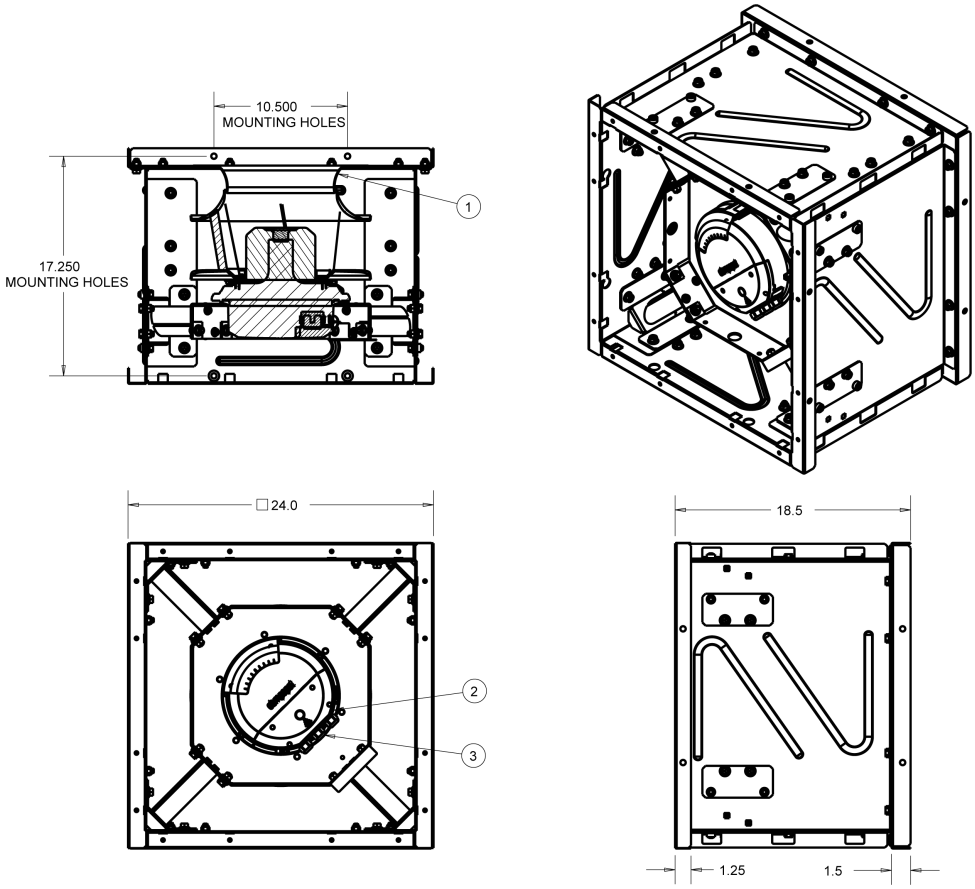
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 116 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79310-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 25311-2-2957 (not included in scope of delivery)

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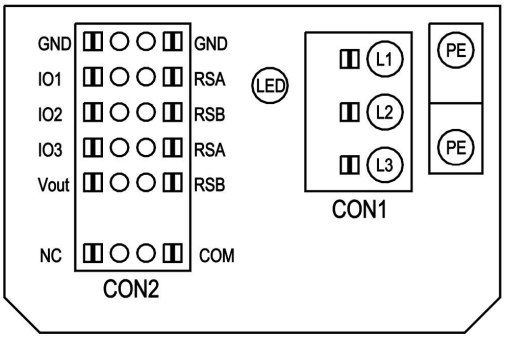
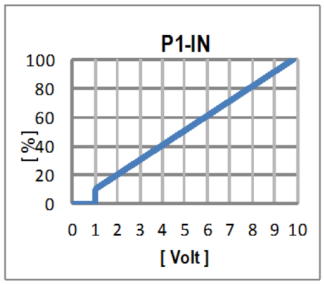
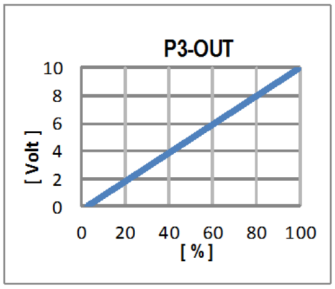
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 VDC / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 VDC, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value	INPUT: source: sensor value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: control function: heating (pos.) / cooling (neg.)	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: set value source	INPUT: switch: fan enable / disable	OUTPUT: signal: tach out	OUTPUT: signal: diagnostics out	OUTPUT: signal: fan modulation level %	OUTPUT: signal: actual speed	OUTPUT: signal: system modulation level %	OUTPUT: signal: remote control output 0-10V	OUTPUT: pulse input for auto-adressing	OUTPUT: pulse output for auto-adressing
			D101 [...]	D147 [...]	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]		
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]		○	○	○		○	○	○							○	
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]	○															
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]		○	○	○	○			○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]	○															
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]	○															
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]		○	○	○	○	○	○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]																
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]		○														
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]		○														
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]				○	○	○	○	○			○	○	○		○	
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]									○							
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]										○						
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV		○	○	○	○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15..50VDC																	

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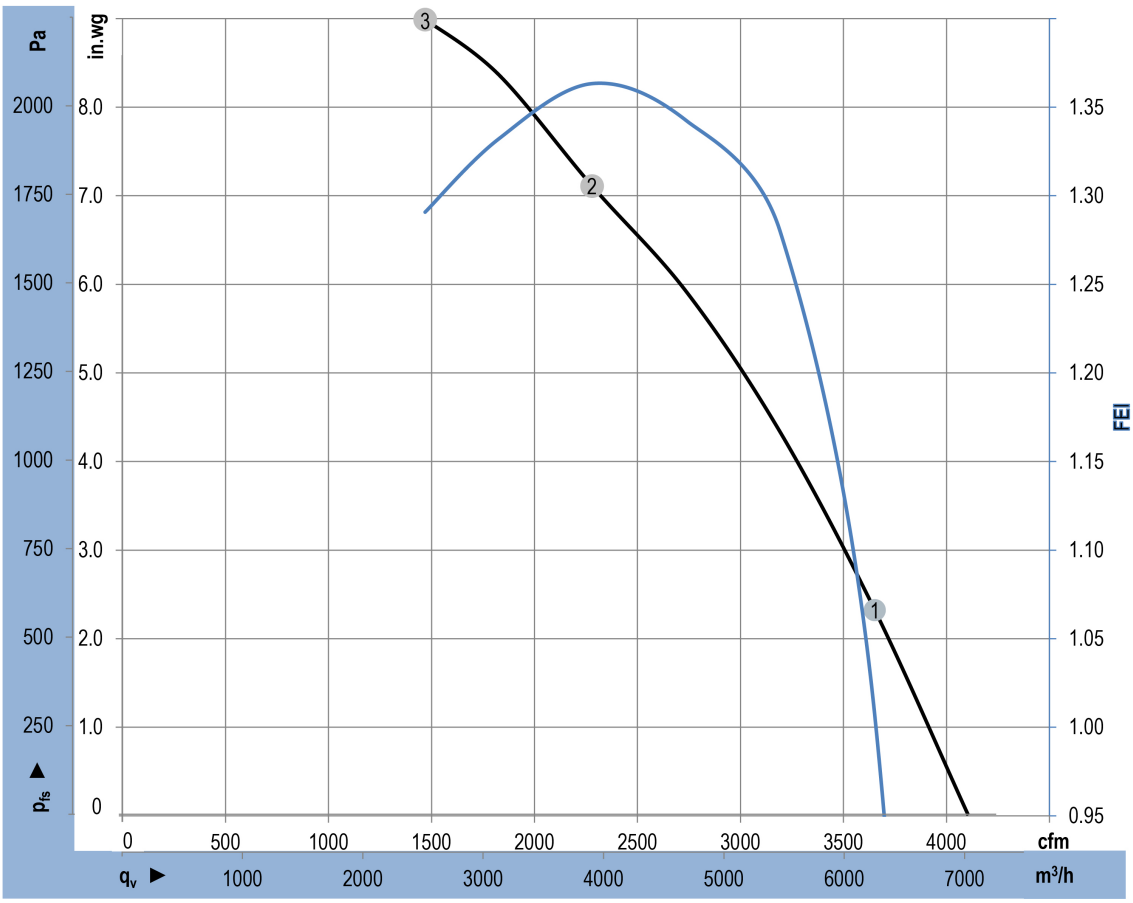
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2142

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	4005	2503	6.7	3653	2.3	1.01
2	3~	230	60	3959	3204	8.5	2280	7.1	1.36
3	3~	230	60	4009	2898	7.7	1469	9.0	1.29

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480310GA

RadiPac - FanGrid Cube

with support bracket

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Nominal Data

Model	EG1R480310GA	
Motor	M3G112-GA	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	3990
Power consumption	W	3153
Current draw	A	4.3
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

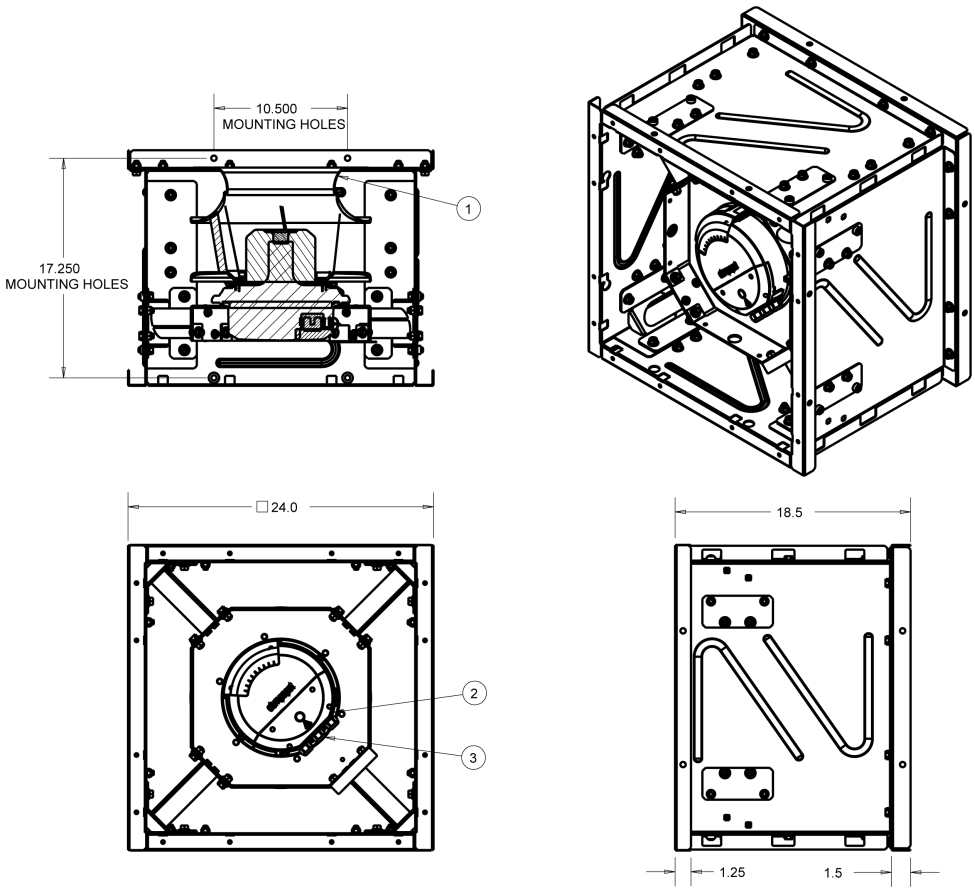
ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	102 lb (46.4 kg)
Nominal impeller size	12.2 in (310 mm)
Motor size	112
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Electronic motor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 116 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79310-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 25311-2-2957 (not included in scope of delivery)

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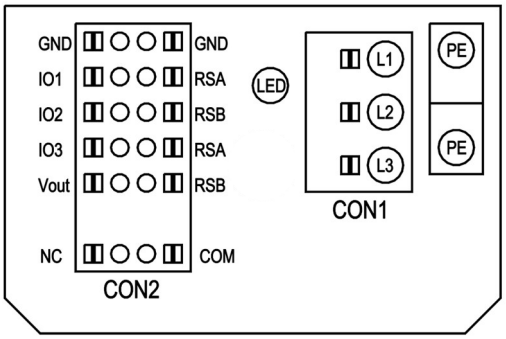
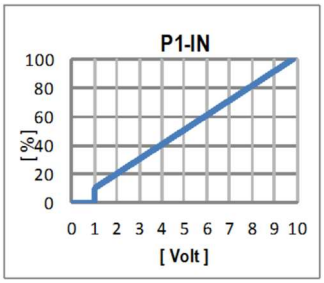
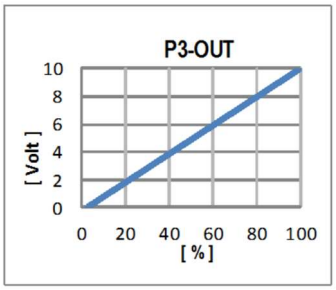
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 VDC, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value	INPUT: source: sensor value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: control function: heating (pos.) / cooling (neg.)	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: set value source	INPUT: switch: fan enable / disable	OUTPUT: signal: tach out (selected directly via IO mode)	OUTPUT: signal: diagnostics out (selected directly via IO mode)	OUTPUT: signal: fan modulation level %	OUTPUT: signal: actual speed	OUTPUT: signal: system modulation level %	OUTPUT: signal: remote control output 0-10V	OUTPUT: pulse input for auto-adressing	OUTPUT: pulse output for auto-adressing
			D101 [...]	D147 [...]	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]					D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]		○	○	○	○	○	○	○							○	
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]	○															
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]		○	○	○	○		○	○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]	○															
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]																
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]		○	○	○	○		○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]																
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]		○														
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]		○														
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]			○	○	○	○	○	○			○	○	○	○		○
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]									○							
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]										○						
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV			○	○	○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15..50VDC																	

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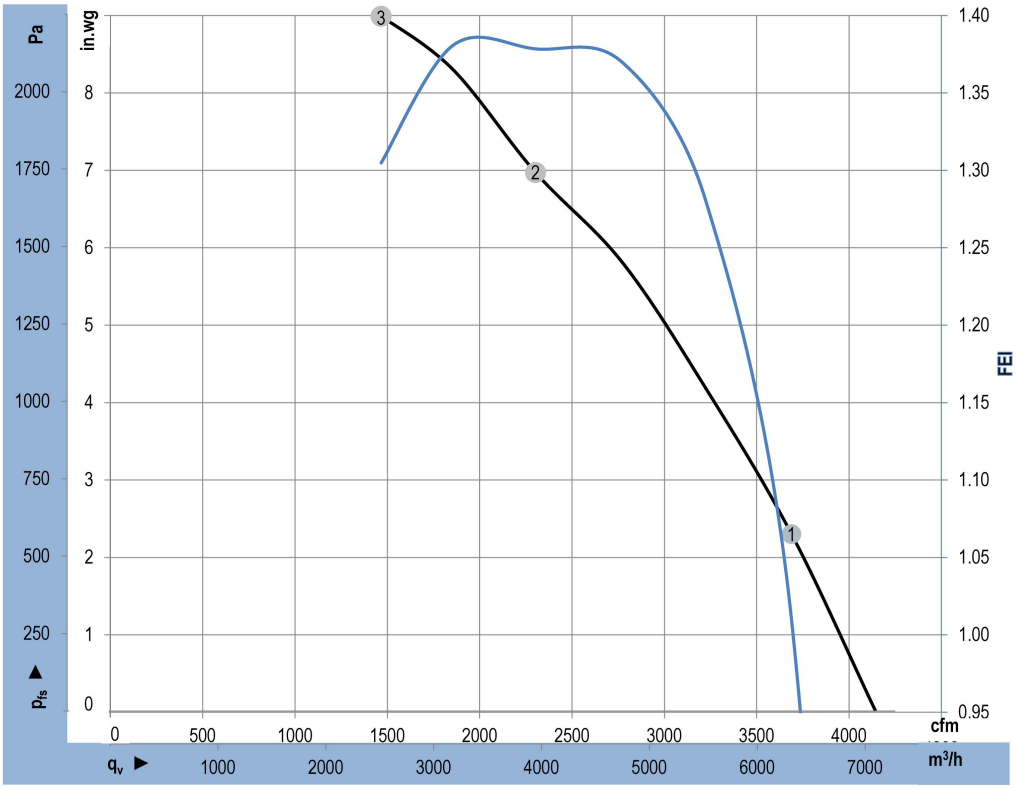
with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2134

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	4004	2498	3.4	3689	2.3	1.01
2	3~	460	60	3969	3140	4.3	2302	7.0	1.38
3	3~	460	60	4000	2878	3.9	1466	9.0	1.30

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480355GC

RadiPac - FanGrid Cube

with support bracket

ebm-papst Inc.
100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
www.ebmpapst.us

Nominal Data

Model	EG1R480355GC	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	4100
Power consumption	W	5255
Current draw	A	7
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	122 (50)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

RadiPac - FanGrid Cube

with support bracket

Technical Description	
Weight	152 lb (69 kg)
Nominal impeller size	14 in (355 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output for slave 0-10 VDC - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Motor protection	Reverse polarity and locked-rotor protection
Electrical hookup	Terminal box
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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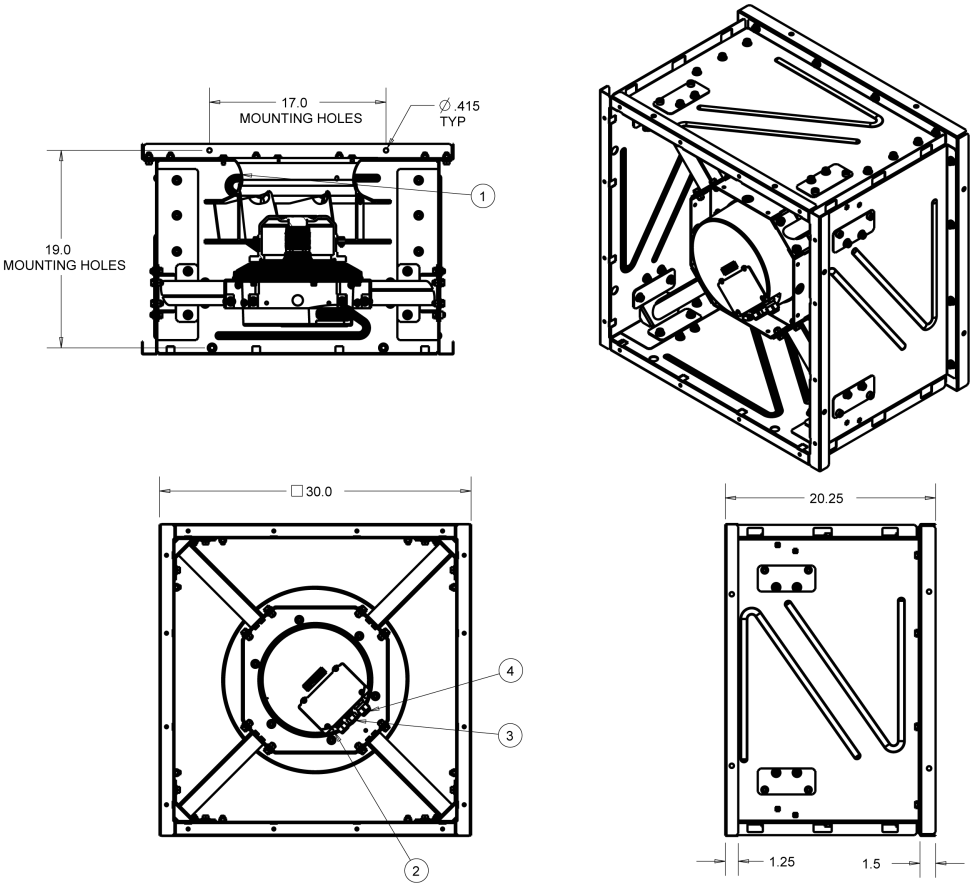
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 148 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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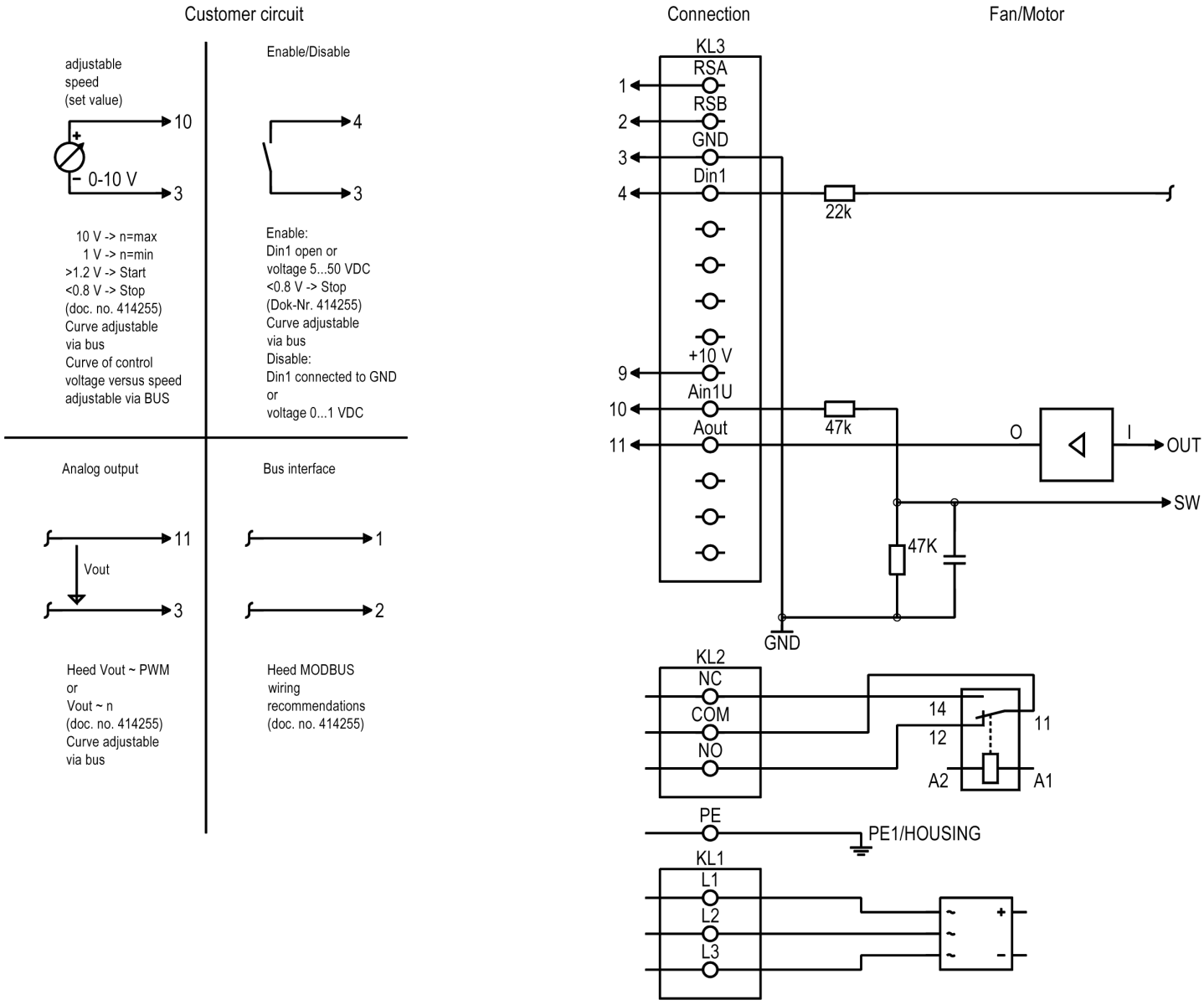
Electrical Interface



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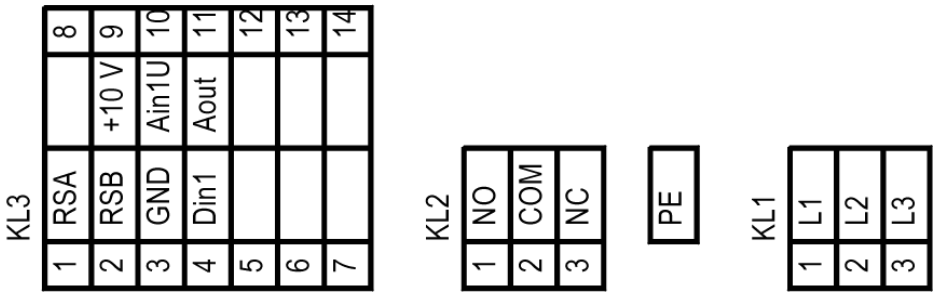
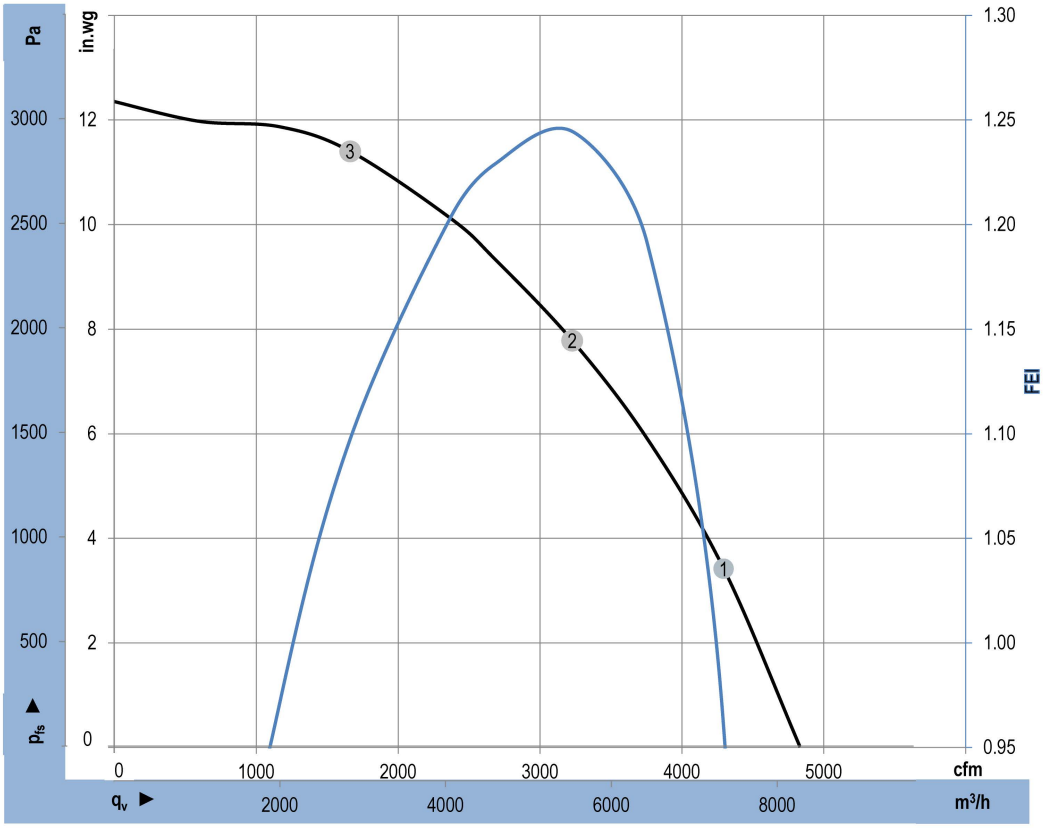
Terminal assignment

Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, option 1: make for failure, option 2: make for error for run monitor
KL2	2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
KL2	3	NC	Status relay, floating status contact, option 1: break for failure, option 2: break for error message for run monitor
KL3	1	RSA	RS485 interface for MODBUS, RSA; SELV
KL3	2	RSB	RS485 interface for MODBUS, RSB; SELV
KL3	3	GND	Reference ground for control interface; SELV
KL3	4	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	9	+10 V	Voltage output 10 V/max. 10 mA, power supply for external devices (e.g. potentiometers), SELV
KL3	10	Ain1U	Analog input 1, set value: 0-10 VDC, Ri = 100 kΩ, adjustable curve; SELV
KL3	11	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV
KL3	-	-	
KL3	-	-	
KL3	-	-	



ρ = 0.075 lbm/ft³

Measurement: LU-2218

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	4101	4177	5.6	4295	3.4	0.96
2	3~	460	60	4104	5170	6.9	3227	7.8	1.24
3	3~	460	60	4102	4692	6.3	1662	11.4	1.10

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R240400GA

RadiPac - FanGrid Cube

with support bracket

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Nominal Data

Model	EG1R240400GA	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	2800
Power consumption	W	3927
Current draw	A	10.43
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	131 (55)

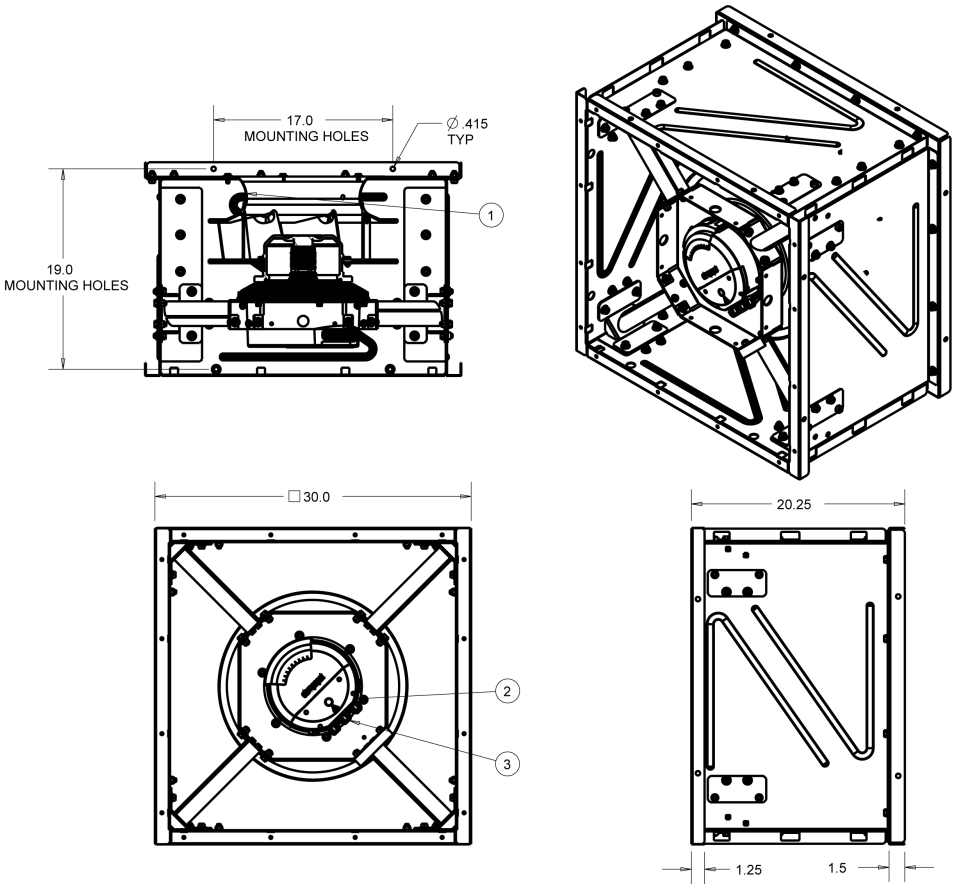
ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	142 lb (64.5 kg)
Nominal impeller size	15.7 in (400 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Electronic motor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 188 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79400-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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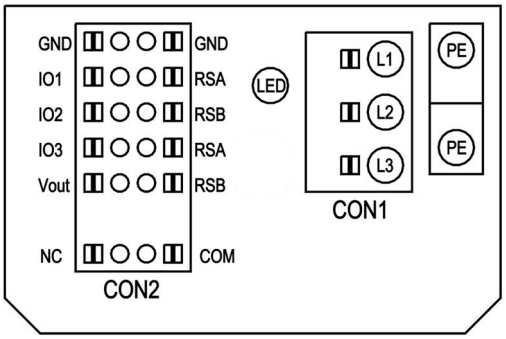
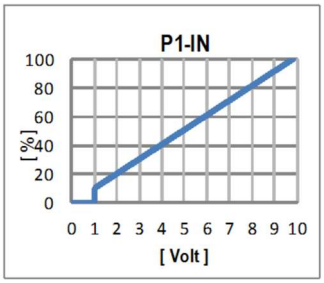
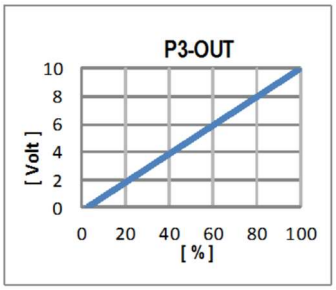
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value	INPUT: source: sensor value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: control function: heating (pos.) / cooling (neg.)	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: set value source	INPUT: switch: fan enable / disable	OUTPUT: signal: tach out (selected directly via IO mode)	OUTPUT: signal: diagnostics out (selected directly via IO mode)	OUTPUT: signal: fan modulation level %	OUTPUT: signal: actual speed	OUTPUT: signal: system modulation level %	OUTPUT: signal: remote control output 0-10V	OUTPUT: pulse input for auto-adressing	OUTPUT: pulse output for auto-adressing
			D101 [...]	D147 [...]	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]					D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]		○	○	○	○	○	○	○								
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]	○															
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]		○	○	○	○		○	○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]	○															
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]	○															
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]		○	○	○	○		○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]		○														
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]	○															
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]	○															
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]			○								○		○	○		○
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]									○							
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]										○						
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV		○		○	○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15..50VDC																	

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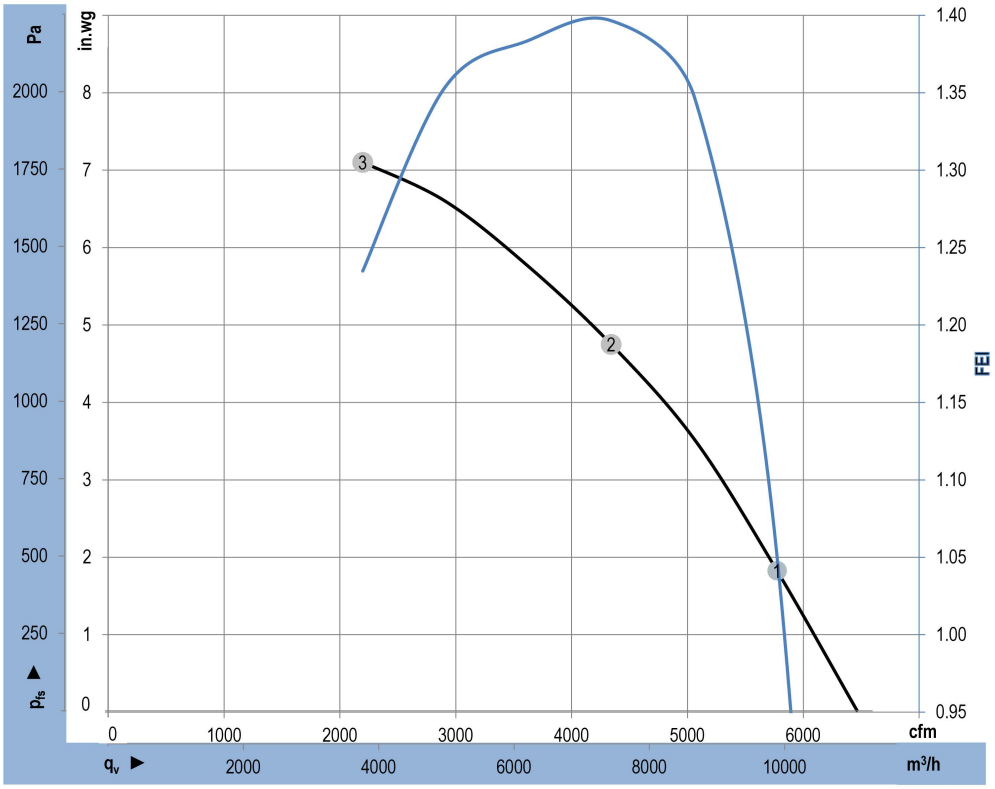

ρ = 0.075 lbm/ft³

Measurement: LU-2199

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	2800	2987	8.0	5774	1.8	1.05
2	3~	230	60	2803	3858	10.3	4341	4.8	1.40
3	3~	230	60	2798	3422	9.1	2196	7.1	1.23

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480400GA

RadiPac - FanGrid Cube

with support bracket

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Nominal Data

Model	EG1R480400GA	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	2795
Power consumption	W	3817
Current draw	A	5.1
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	142 lb (64.5 kg)
Nominal impeller size	15.7 in (400 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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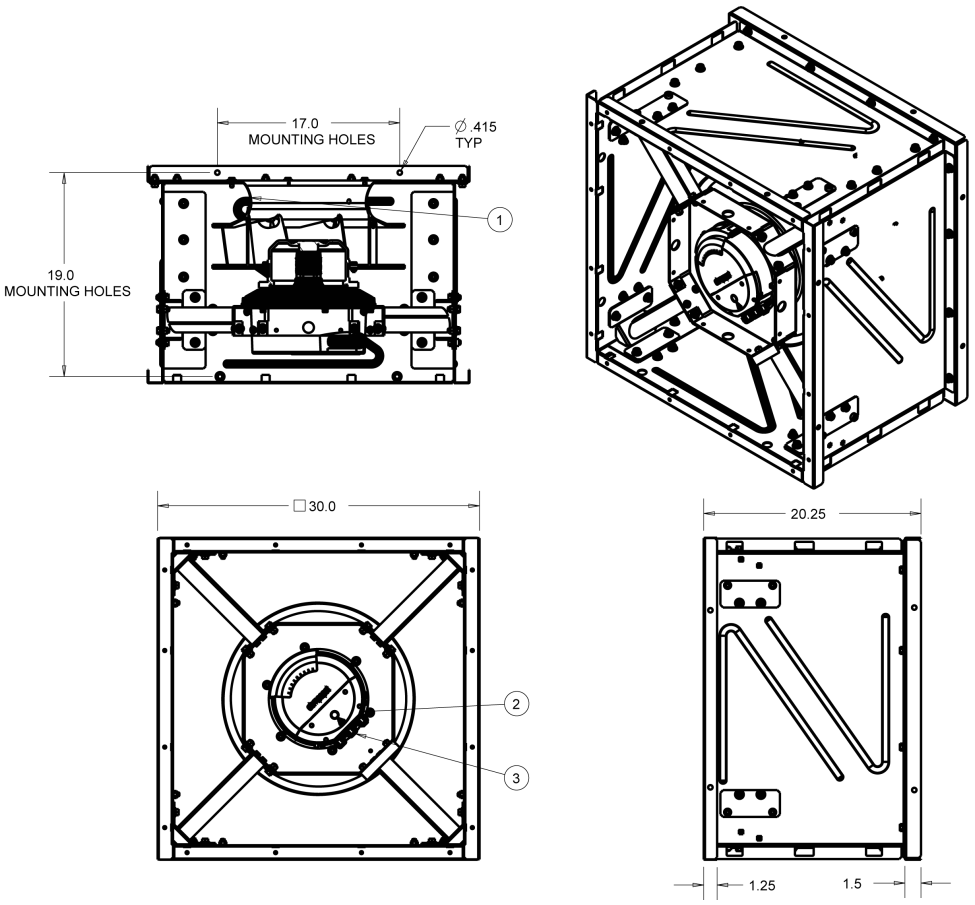
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 188 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79400-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 00401-2-2957 (not included in scope of delivery)

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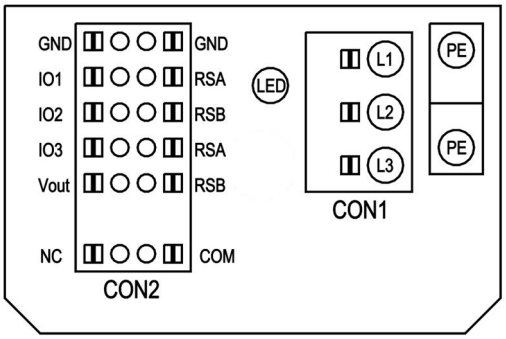
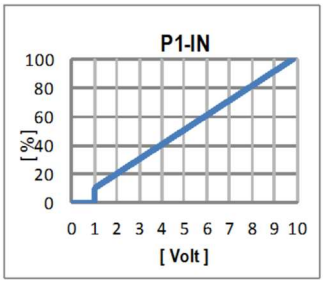
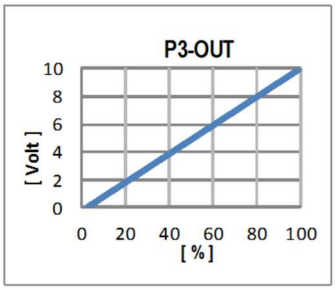
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 VDC / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 VDC, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value	INPUT: source: sensor value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: control function: heating (pos.) / cooling (neg.)	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: set value source	INPUT: switch: fan enable / disable	OUTPUT: signal: tach out (selected directly via IO mode)	OUTPUT: signal: diagnostics out (selected directly via IO mode)	OUTPUT: signal: fan modulation level %	OUTPUT: signal: actual speed	OUTPUT: signal: system modulation level %	OUTPUT: signal: remote control output 0-10V	OUTPUT: pulse input for auto-adressing	OUTPUT: pulse output for auto-adressing
			D101 [...]	D147 [...]	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]					D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]		○	○	○	○			○							○	
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]	○															
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]		○	○	○	○			○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]	○															
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]	○															
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]		○	○	○	○			○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]		○														
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]	○															
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]	○															
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]											○		○	○		○
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]									○							
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]										○						
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV		○		○	○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15..50VDC																	

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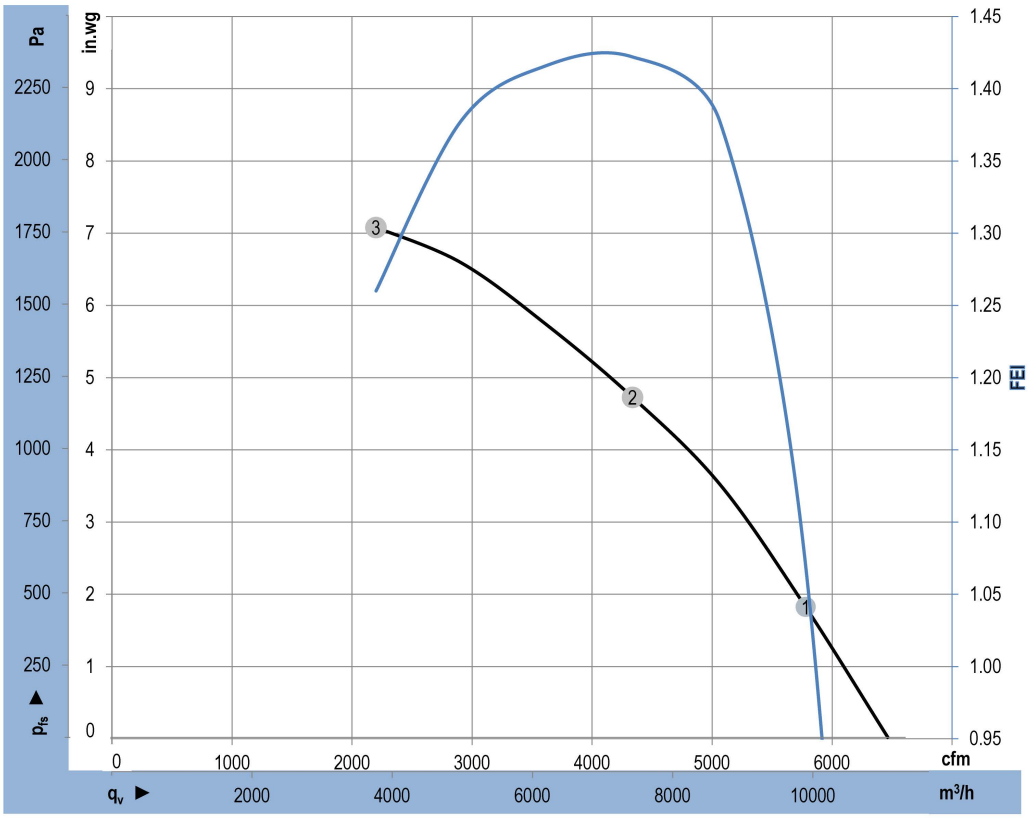
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2193

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	2795	2933	4.0	5780	1.8	1.07
2	3~	460	60	2798	3769	5.1	4337	4.7	1.42
3	3~	460	60	2795	3349	4.5	2200	7.1	1.26

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R240400GC

RadiPac - FanGrid Cube

with support bracket

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Farmington, CT 06034
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Nominal Data

Model	EG1R240400GC	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	3675
Power consumption	W	6399
Current draw	A	17.05
Min. ambient temp	°F (°C)	-13 (-25)
Max. ambient temp	°F (°C)	122 (50)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

RadiPac - FanGrid Cube

with support bracket

Technical Description	
Weight	155 lb (70.5 kg)
Nominal impeller size	15.7 in (400 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	F
Environmental class	H1
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 VDC - Input for sensor 0-10 VDC or 4-20 mA - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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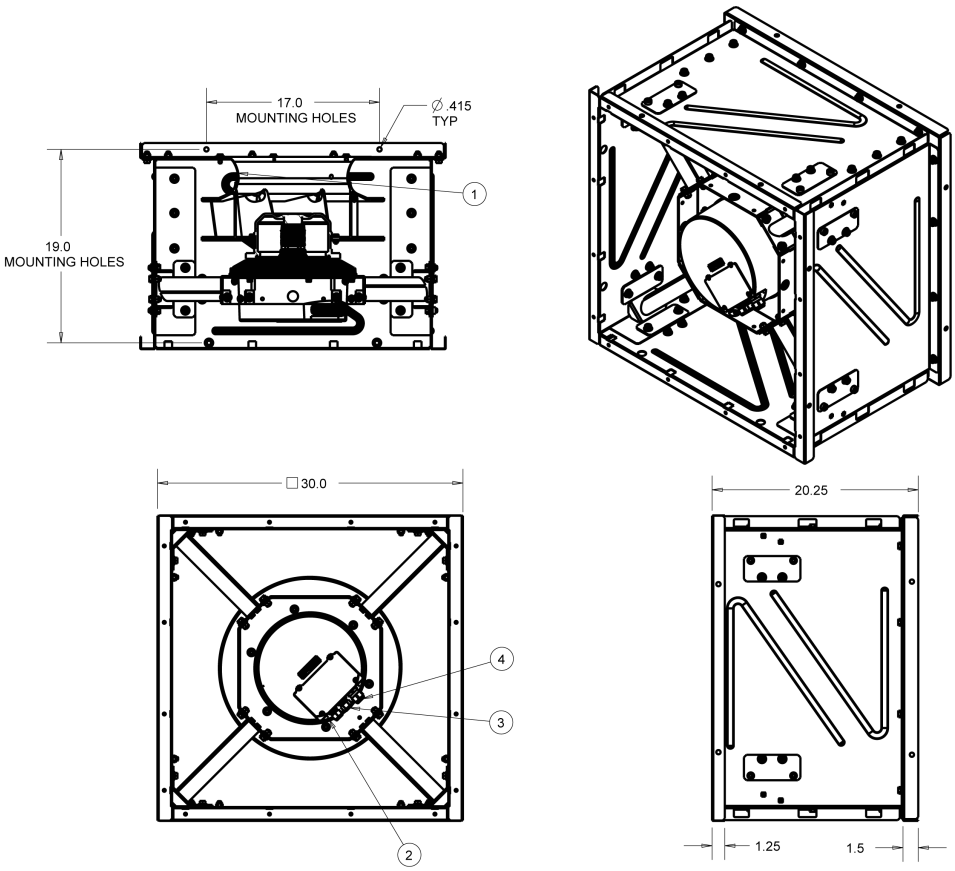
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 188 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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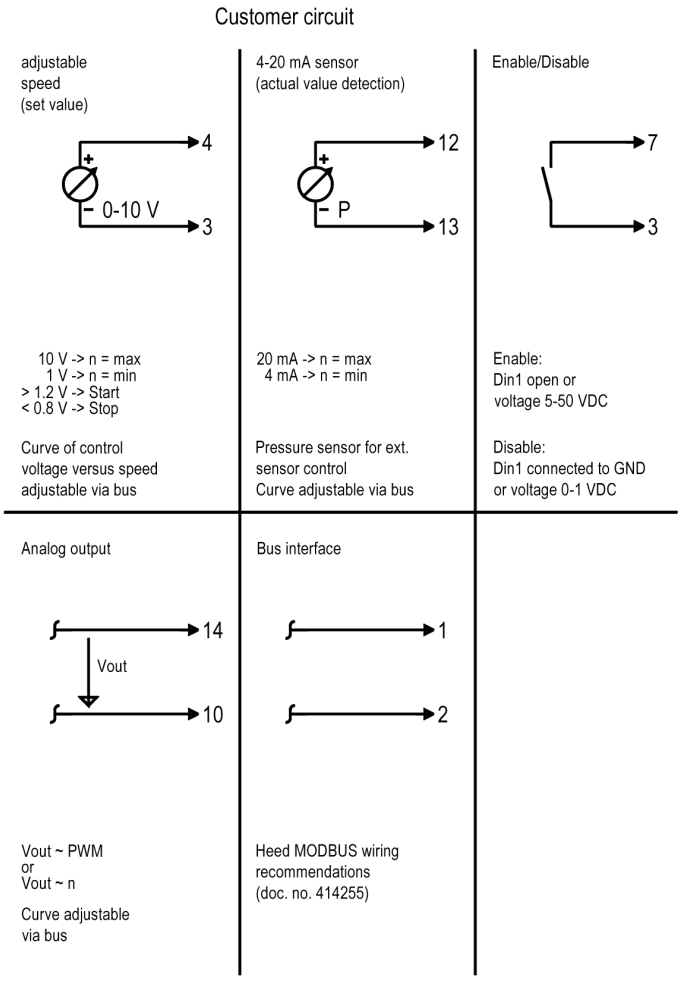
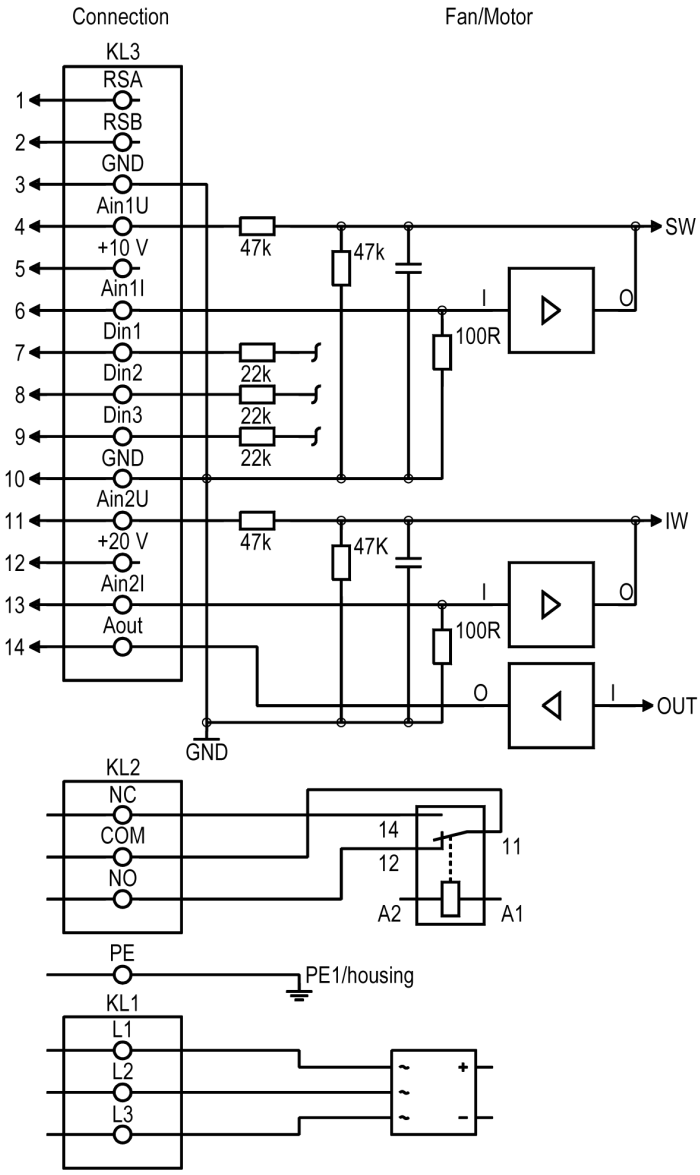
Electrical Interface





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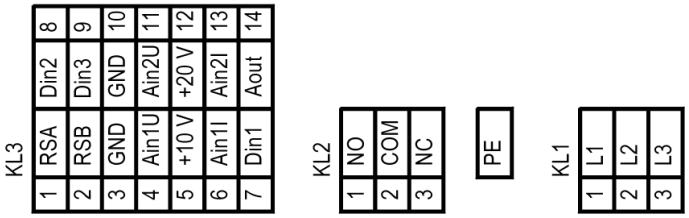
Terminal assignment

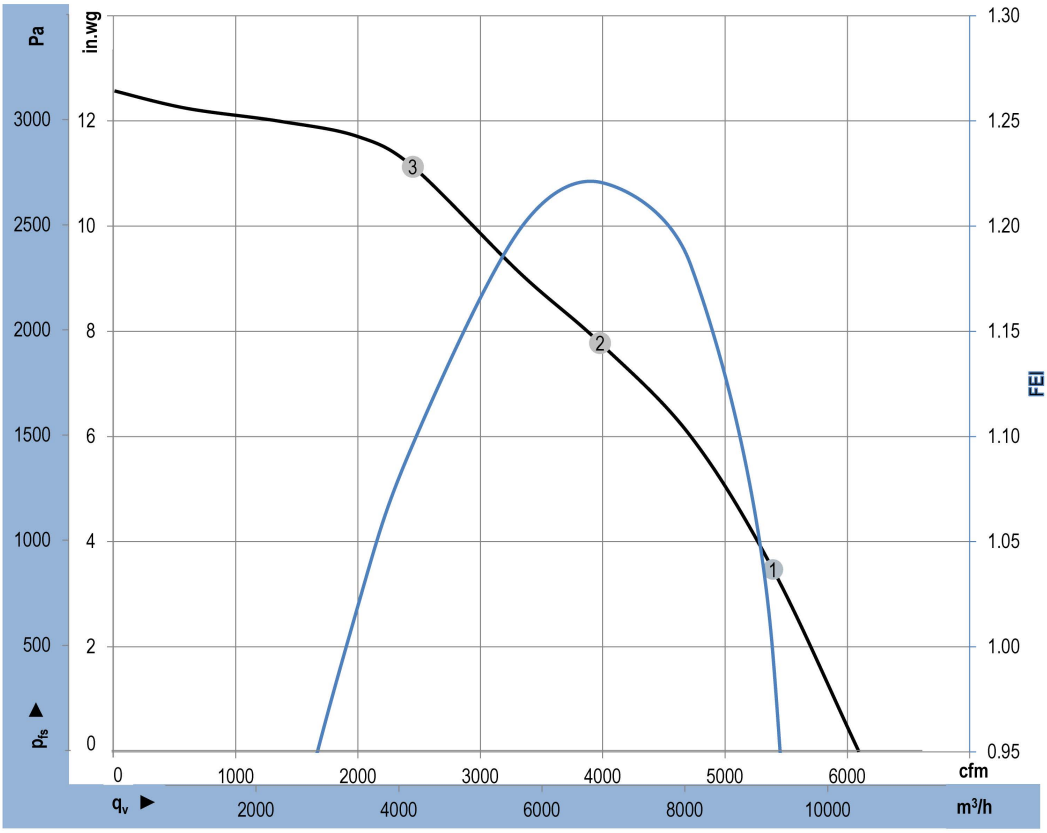
Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, make for failure
KL2	2	COM	Status relay, floating status contact, changeover contact, common connection, contact rating, max. 250 VAC/2 A (AC1)/min. 10 mA
KL2	3	NC	Status relay, floating status contact, break for failure
KL3	1	RSA	Bus connection RS485, RSA, MODBUS RTU; SELV
KL3	2	RSB	Bus connection RS485, RSB, MODBUS RTU; SELV
KL3	3/10	GND	Reference ground for control interface; SELV
KL3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV
KL3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ± 3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV
KL3 KL3	6	Ain1 I	Analog input 1, set value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain1 U; SELV
KL3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL3	9	Din3	Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected as normal/inverse via bus or digital input Normal: Pin open or applied voltage 5-50 VDC Inverse: Bridge to GND or applied voltage < 1 VDC; SELV
KL3	11	Ain2 U	Analog input 2, measured value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2 I; SELV
KL3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV Alternatively: +24 VDC input for parameterization without line voltage
KL3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2 U; SELV
KL3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level; adjustable curve; SELV

RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2210

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Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	3710	5009	13.4	5393	3.5	1.00
2	3~	230	60	3662	6363	17.0	3979	7.8	1.22
3	3~	230	60	3700	6399	17.1	2448	11.1	1.10

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480400GC

RadiPac - FanGrid Cube

with support bracket

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Nominal Data

Model	EG1R480400GC	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	3700
Power consumption	W	6633
Current draw	A	8.8
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	122 (50)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

RadiPac - FanGrid Cube

with support bracket

Technical Description	
Weight	155 lb (70.5 kg)
Nominal impeller size	15.7 in (400 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output for slave 0-10 VDC - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Motor protection	Reverse polarity and locked-rotor protection
Electrical hookup	Terminal box
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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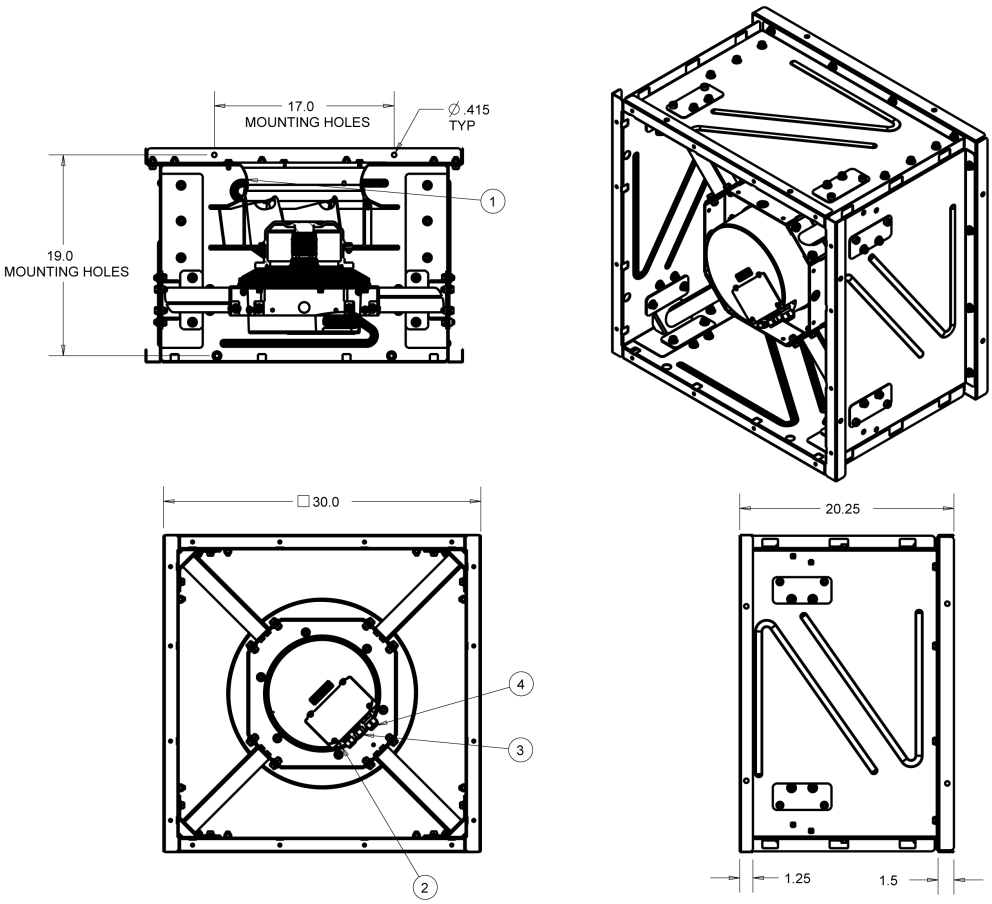
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 188 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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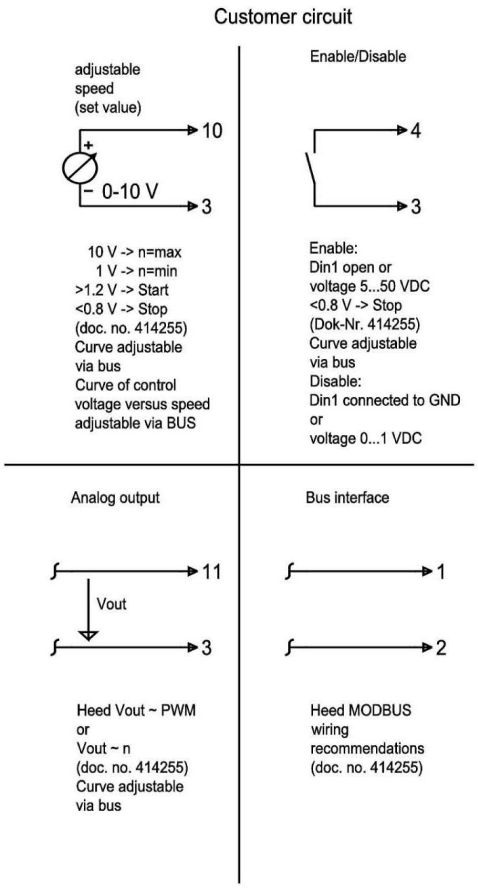
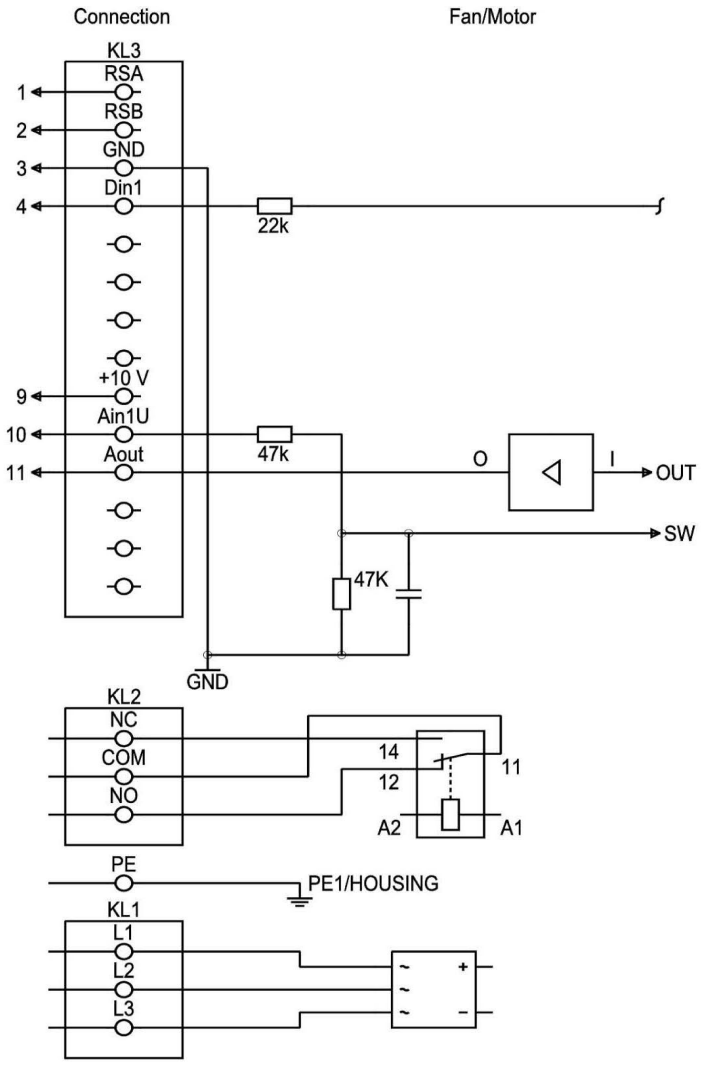
Electrical Interface





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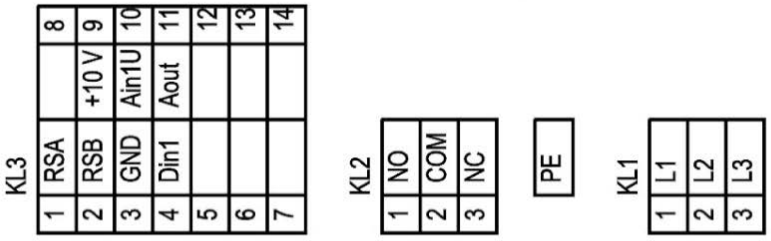
Terminal assignment

Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, option 1: make for failure, option 2: make for error for run monitor
KL2	2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
KL2	3	NC	Status relay, floating status contact, option 1: break for failure, option 2: break for error message for run monitor
KL3	1	RSA	RS485 interface for MODBUS, RSA; SELV
KL3	2	RSB	RS485 interface for MODBUS, RSB; SELV
KL3	3	GND	Reference ground for control interface; SELV
KL3	4	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	9	+10 V	Voltage output 10 V/max. 10 mA, power supply for external devices (e.g. potentiometers), SELV
KL3	10	Ain1U	Analog input 1, set value: 0-10 VDC, Ri = 100 kΩ, adjustable curve; SELV
KL3	11	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV
KL3	-	-	
KL3	-	-	
KL3	-	-	

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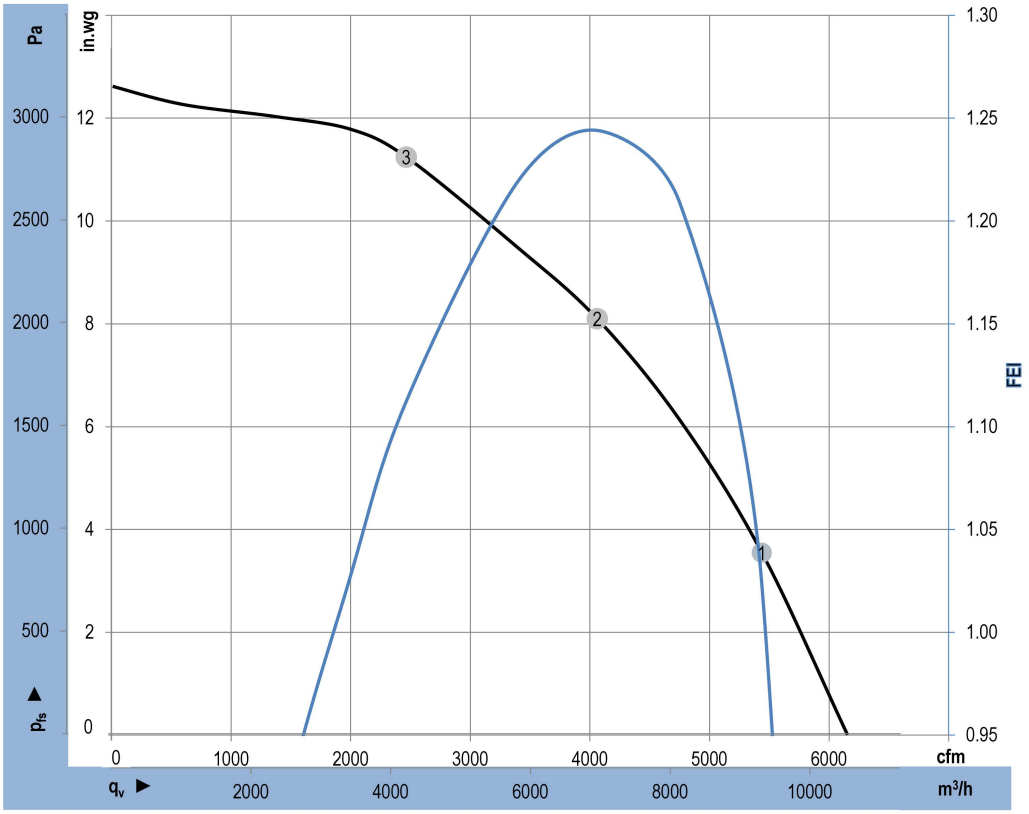
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2203

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	3708	5011	6.7	5439	3.5	1.02
2	3~	460	60	3711	6604	8.8	4061	8.1	1.24
3	3~	460	60	3715	6404	8.5	2464	11.2	1.11

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R240450GA

RadiPac - FanGrid Cube

with support bracket

ebm-papst Inc.
100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
www.ebmpapst.us

Nominal Data

Model	EG1R240450GA	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	2300
Power consumption	W	3922
Current draw	A	10.41
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	189 lb (86 kg)
Nominal impeller size	17.7 in (450 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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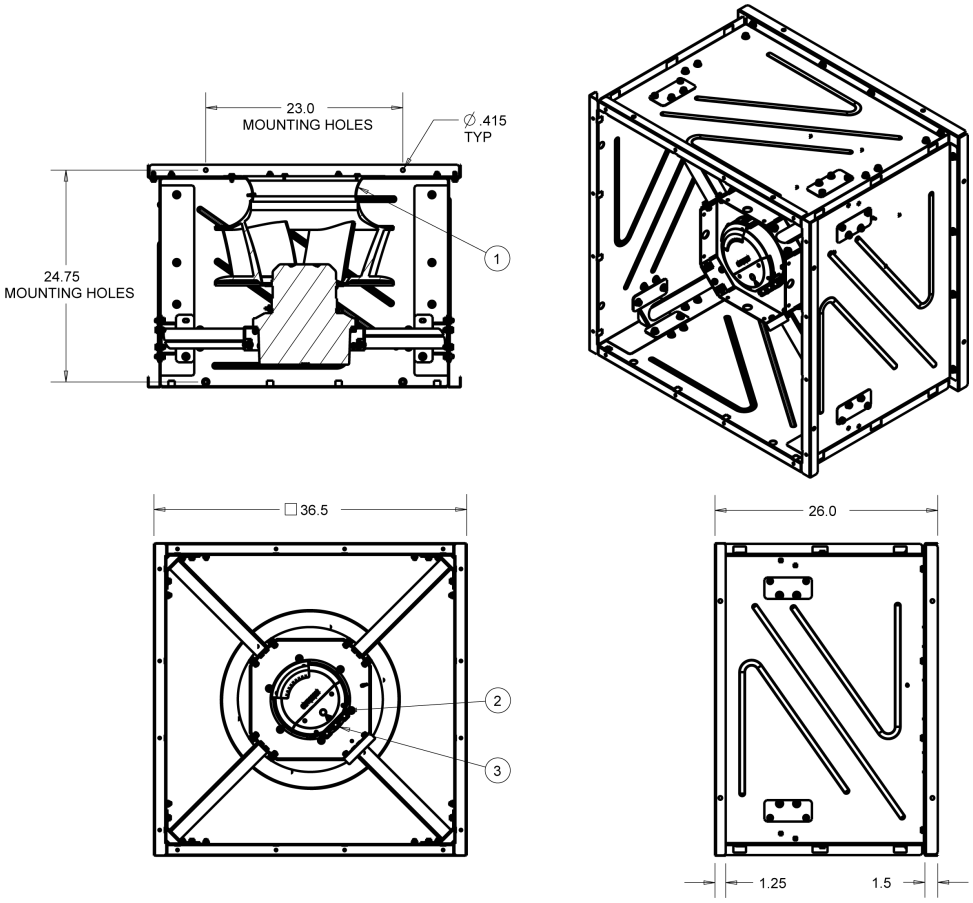
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 240 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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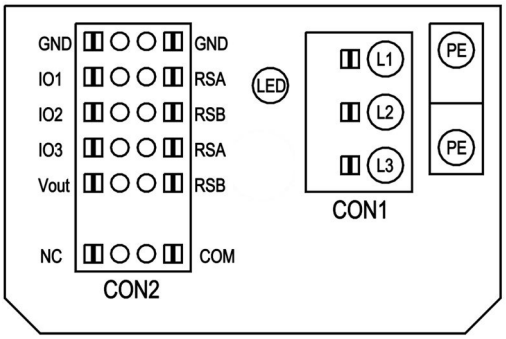
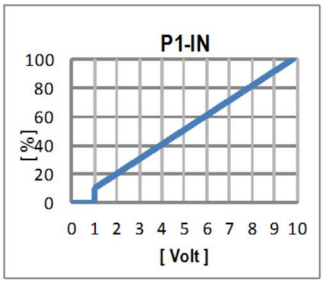
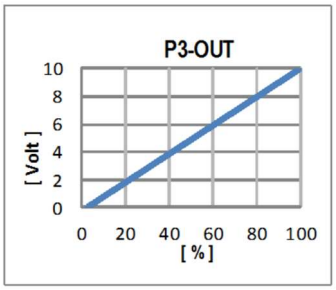
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value	INPUT: source: sensor value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: control function: heating (pos.) / cooling (neg.)	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: set value source	INPUT: switch: fan enable / disable	OUTPUT: signal: tach out	OUTPUT: signal: diagnostics out	OUTPUT: signal: fan modulation level %	OUTPUT: signal: actual speed	OUTPUT: signal: system modulation level %	OUTPUT: signal: remote control output 0-10V	OUTPUT: pulse input for auto-adressing	OUTPUT: pulse output for auto-adressing
			D101 [...]	D147 [...]	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]		
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]		○	○	○	○	○	○	○							○	
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]	○															
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]		○	○	○	○	○	○	○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]	○															
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]	○															
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]		○	○	○	○	○	○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]		○	○	○	○	○	○	○								
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]	○															
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]	○															
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]				○	○	○	○	○	○		○		○			
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]										○						
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]											○					
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV		○		○	○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15..50VDC																	

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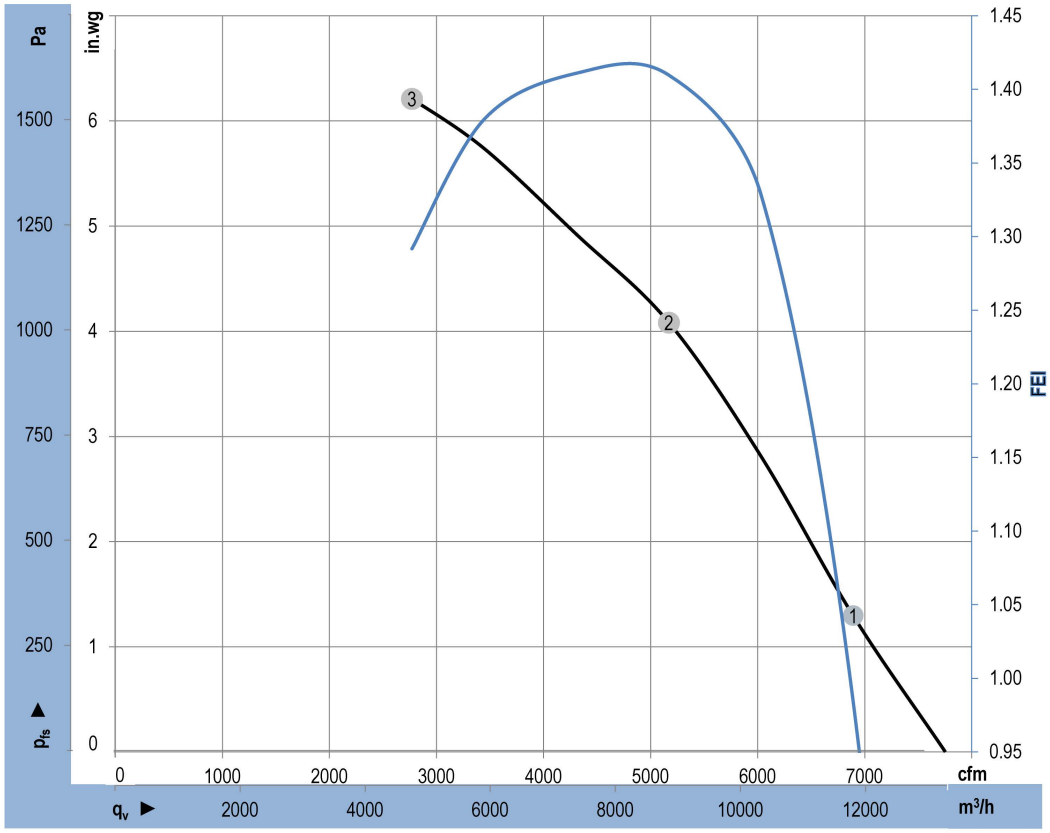
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2128

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	2299	2896	7.7	6893	1.3	0.98
2	3~	230	60	2300	3922	10.4	5171	4.1	1.41
3	3~	230	60	2301	3546	9.4	2771	6.2	1.29

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480450GA

RadiPac - FanGrid Cube

with support bracket

ebm-papst Inc.
100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
www.ebmpapst.us

Nominal Data

Model	EG1R480450GA	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	2445
Power consumption	W	4545
Current draw	A	6.1
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

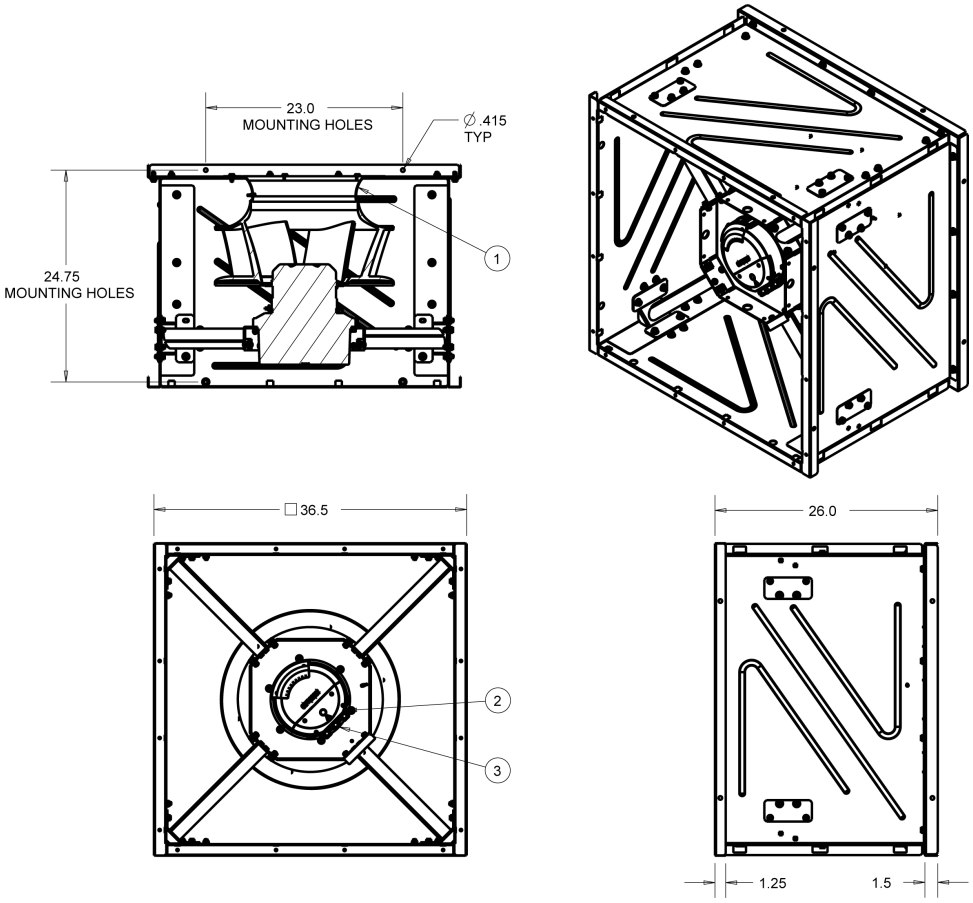
ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	189 lb (86 kg)
Nominal impeller size	17.7 in (450 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 240 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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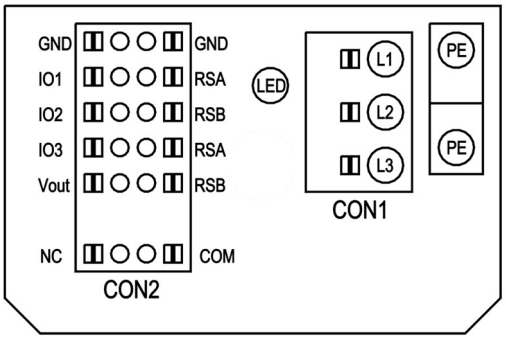
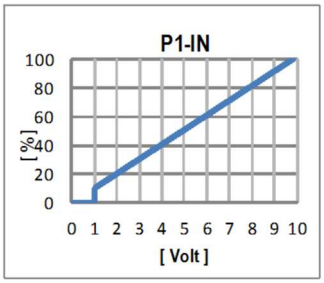
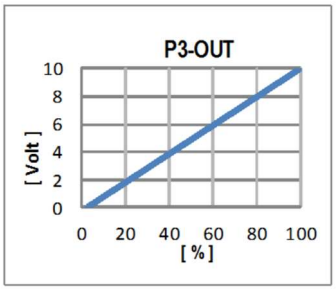
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 VDC / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 VDC, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value	INPUT: source: sensor value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: control function: heating (pos.) / cooling (neg.)	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: set value source	INPUT: switch: fan enable / disable	OUTPUT: signal: tach out (selected directly via IO mode)	OUTPUT: signal: diagnostics out (selected directly via IO mode)	OUTPUT: signal: fan modulation level %	OUTPUT: signal: actual speed	OUTPUT: signal: system modulation level %	OUTPUT: signal: remote control output 0-10V	OUTPUT: pulse input for auto-adressing	OUTPUT: pulse output for auto-adressing
			D101 [...]	D147 [...]	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]					D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]		○	○	○	○	○	○	○							○	
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]	○															
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]		○	○	○	○		○	○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]	○															
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]	○															
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]		○	○	○	○		○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]																
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]		○														
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]		○														
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]											○		○	○		○
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]									○							
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]										○						
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV			○	○	○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15..50VDC																	

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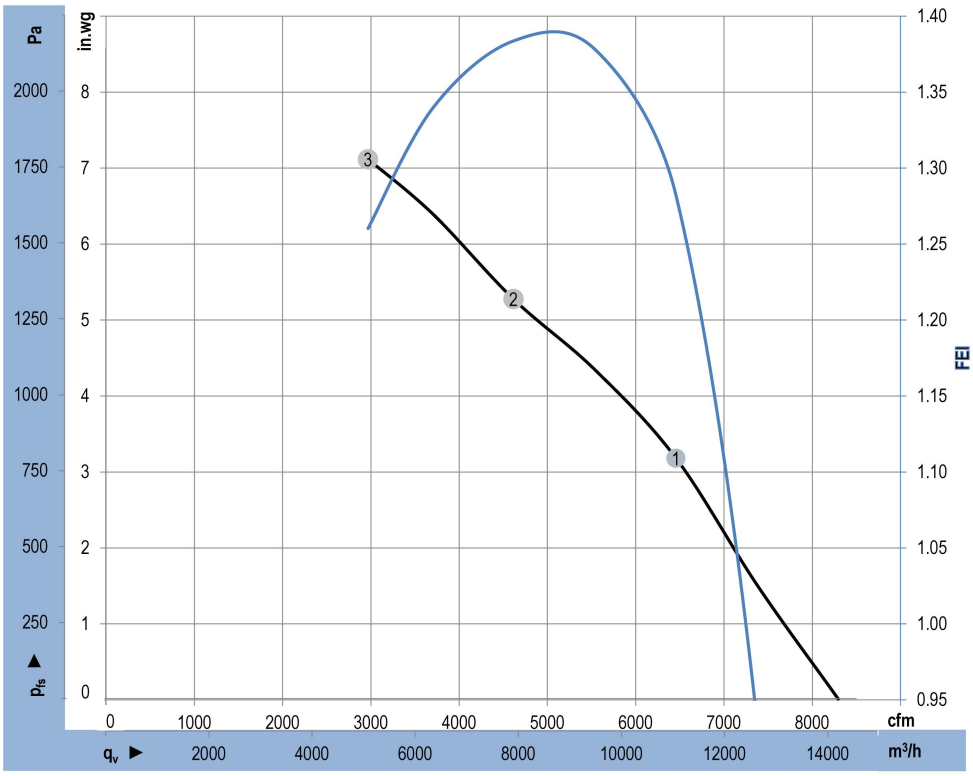
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2036

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	2474	4265	5.7	6457	3.2	1.28
2	3~	460	60	2413	4520	6.1	4615	5.3	1.38
3	3~	460	60	2476	4368	5.9	2968	7.1	1.26

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R240450GC

RadiPac - FanGrid Cube

with support bracket

ebm-papst Inc.
100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
www.ebmpapst.us

Nominal Data

Model	EG1R240450GC	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	2600
Power consumption	W	5712
Current draw	A	15.17
Min. ambient temp	°F (°C)	-13 (-25)
Max. ambient temp	°F (°C)	104 (40)

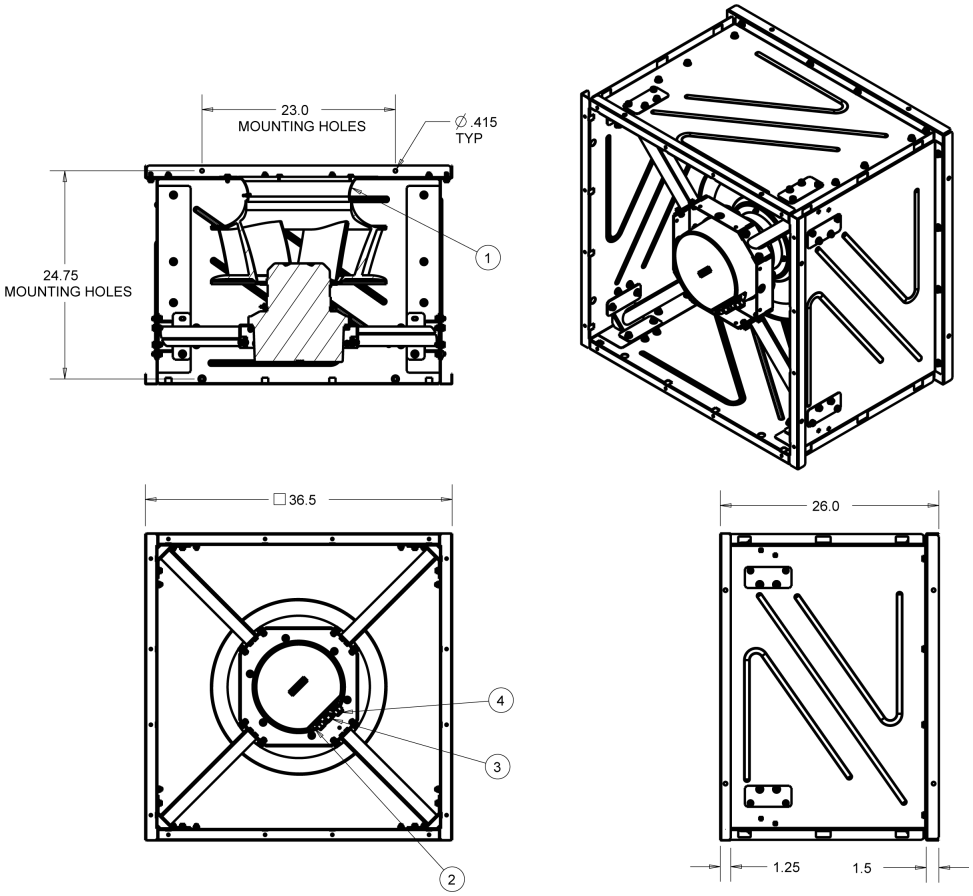
ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	214 lb (97 kg)
Nominal impeller size	17.7 in (450 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 VDC - Input for sensor 0-10 VDC or 4-20 mA - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 240 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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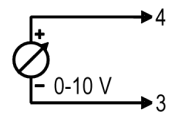
Electrical Interface

Customer circuit

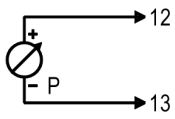
adjustable speed (set value)



10 V -> n = max
1 V -> n = min
> 1.2 V -> Start
< 0.8 V -> Stop

Curve of control voltage versus speed adjustable via bus

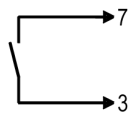
4-20 mA sensor (actual value detection)



20 mA -> n = max
4 mA -> n = min

Pressure sensor for ext. sensor control
Curve adjustable via bus

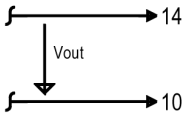
Enable/Disable



Enable:
Din1 open or voltage 5-50 VDC

Disable:
Din1 connected to GND or voltage 0-1 VDC

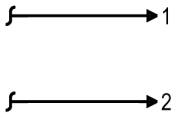
Analog output



Vout ~ PWM
or
Vout ~ n

Curve adjustable via bus

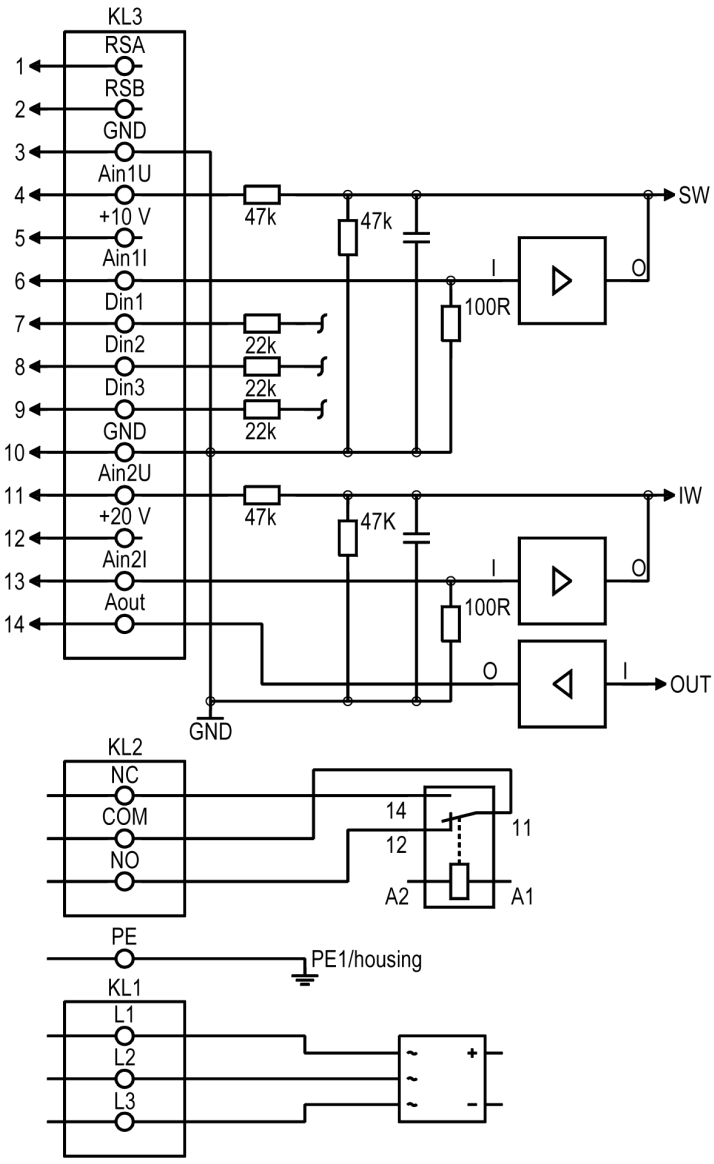
Bus interface



Heed MODBUS wiring recommendations (doc. no. 414255)

Connection

Fan/Motor



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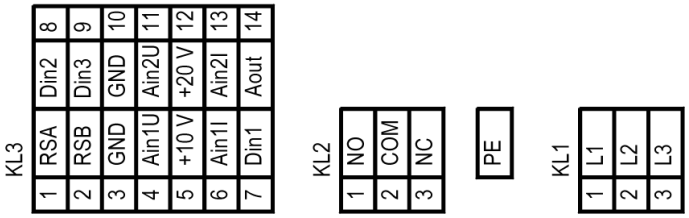
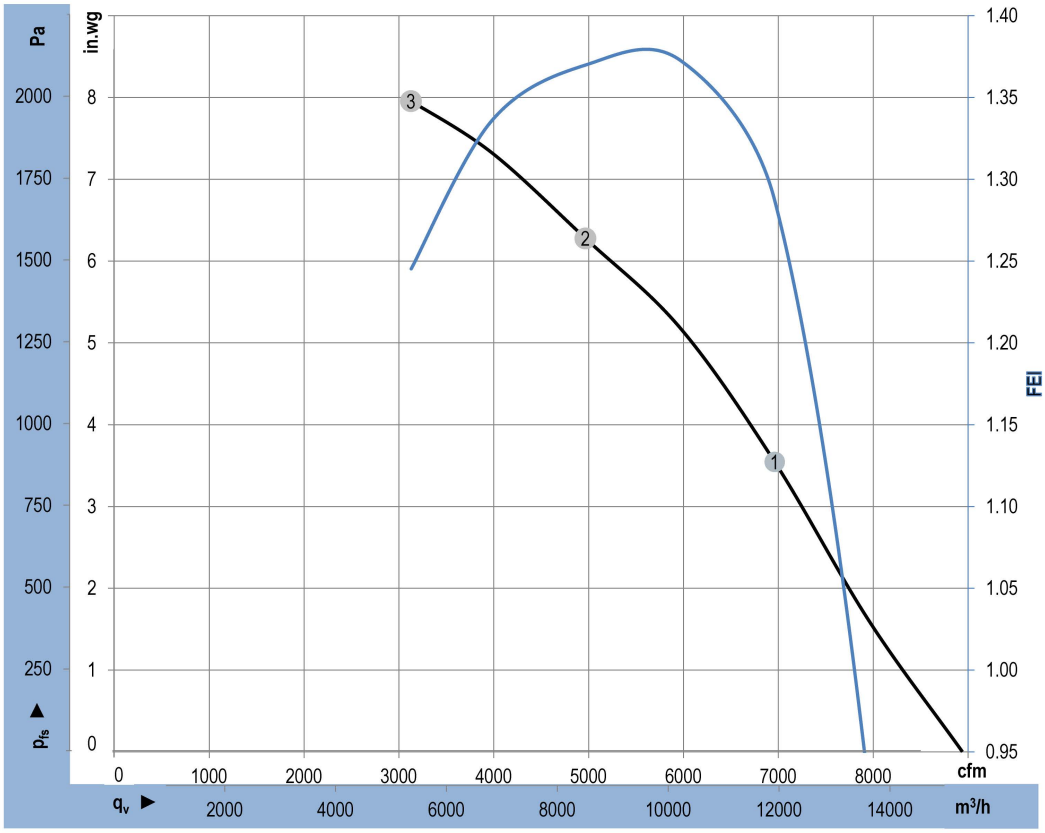
Terminal assignment

Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, make for failure
KL2	2	COM	Status relay, floating status contact, changeover contact, common connection, contact rating, max. 250 VAC/2 A (AC1)/min. 10 mA
KL2	3	NC	Status relay, floating status contact, break for failure
KL3	1	RSA	Bus connection RS485, RSA, MODBUS RTU; SELV
KL3	2	RSB	Bus connection RS485, RSB, MODBUS RTU; SELV
KL3	3/10	GND	Reference ground for control interface; SELV
KL3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV
KL3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ± 3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV
KL3 KL3	6	Ain1 I	Analog input 1, set value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain1 U; SELV
KL3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL3	9	Din3	Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected as normal/inverse via bus or digital input Normal: Pin open or applied voltage 5-50 VDC Inverse: Bridge to GND or applied voltage < 1 VDC; SELV
KL3	11	Ain2 U	Analog input 2, measured value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2 I; SELV
KL3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV Alternatively: +24 VDC input for parameterization without line voltage
KL3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2 U; SELV
KL3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level; adjustable curve; SELV



ρ = 0.075 lbm/ft³

Measurement: LU-2115

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shownn herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	2600	4999	13.3	6961	3.5	1.29
2	3~	230	60	2599	5712	15.2	4967	6.3	1.37
3	3~	230	60	2600	5130	13.7	3129	8.0	1.25

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480450GC

RadiPac - FanGrid Cube

with support bracket

ebm-papst Inc.
100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
www.ebmpapst.us

Nominal Data

Model	EG1R480450GC	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	2605
Power consumption	W	5670
Current draw	A	7.6
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

RadiPac - FanGrid Cube

with support bracket

Technical Description	
Weight	214 lb (97.3 kg)
Nominal impeller size	17.7 in (450 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output for slave 0-10 VDC - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Motor protection	Reverse polarity and locked-rotor protection
Electrical hookup	Terminal box
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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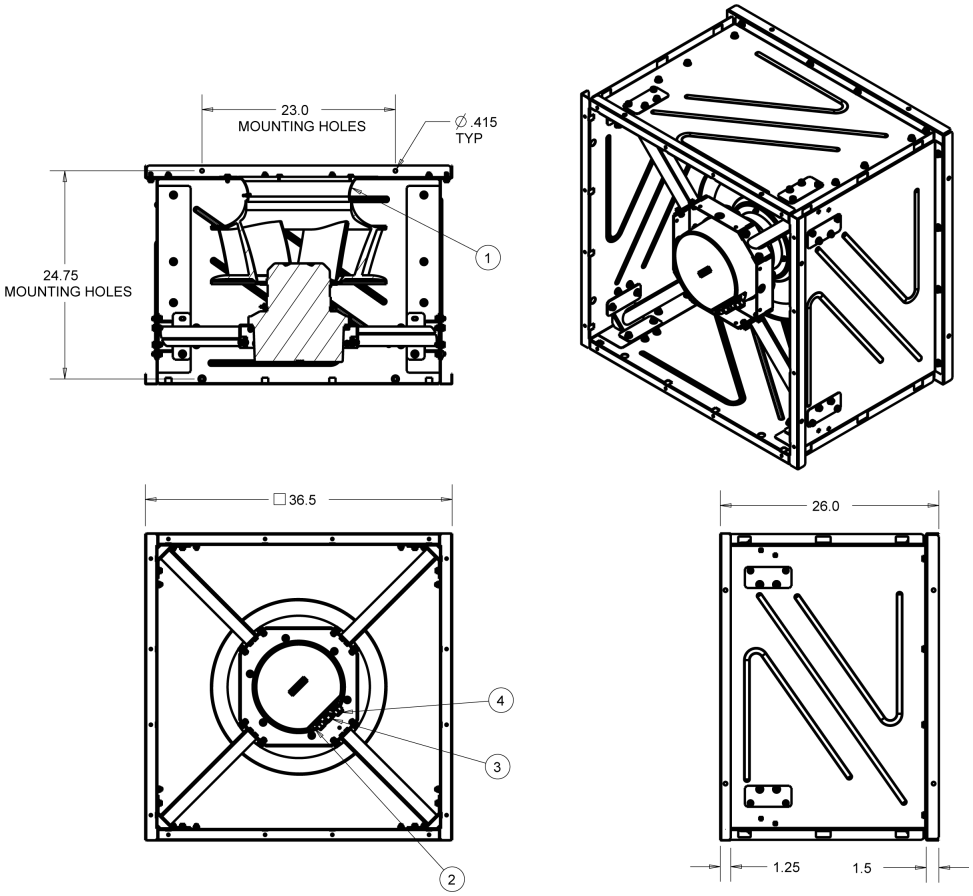
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 240 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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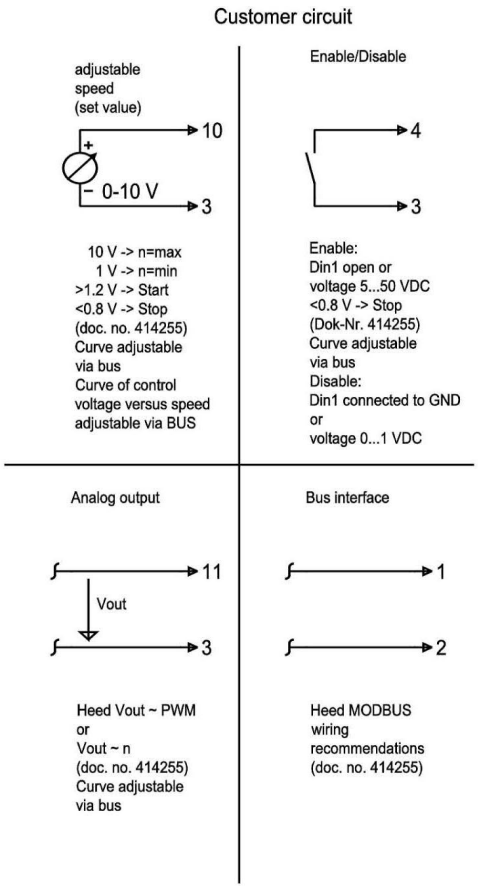
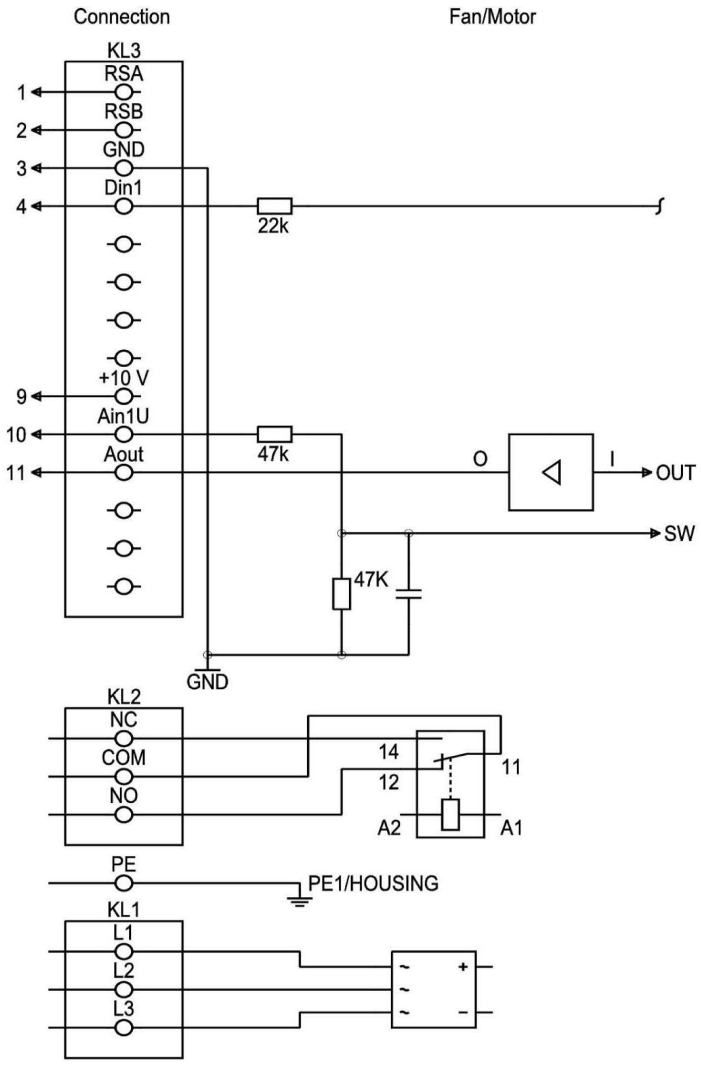
Electrical Interface





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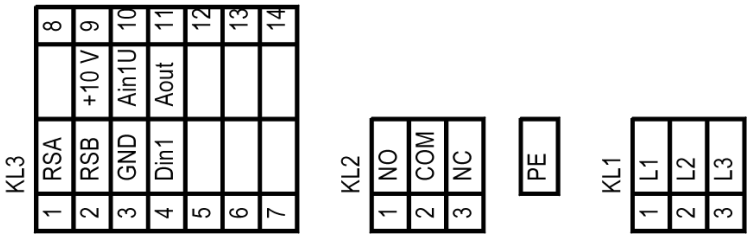
Terminal assignment

Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, option 1: make for failure, option 2: make for error for run monitor
KL2	2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
KL2	3	NC	Status relay, floating status contact, option 1: break for failure, option 2: break for error message for run monitor
KL3	1	RSA	RS485 interface for MODBUS, RSA; SELV
KL3	2	RSB	RS485 interface for MODBUS, RSB; SELV
KL3	3	GND	Reference ground for control interface; SELV
KL3	4	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	9	+10 V	Voltage output 10 V/max. 10 mA, power supply for external devices (e.g. potentiometers), SELV
KL3	10	Ain1U	Analog input 1, set value: 0-10 VDC, Ri = 100 kΩ, adjustable curve; SELV
KL3	11	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV
KL3	-	-	
KL3	-	-	
KL3	-	-	

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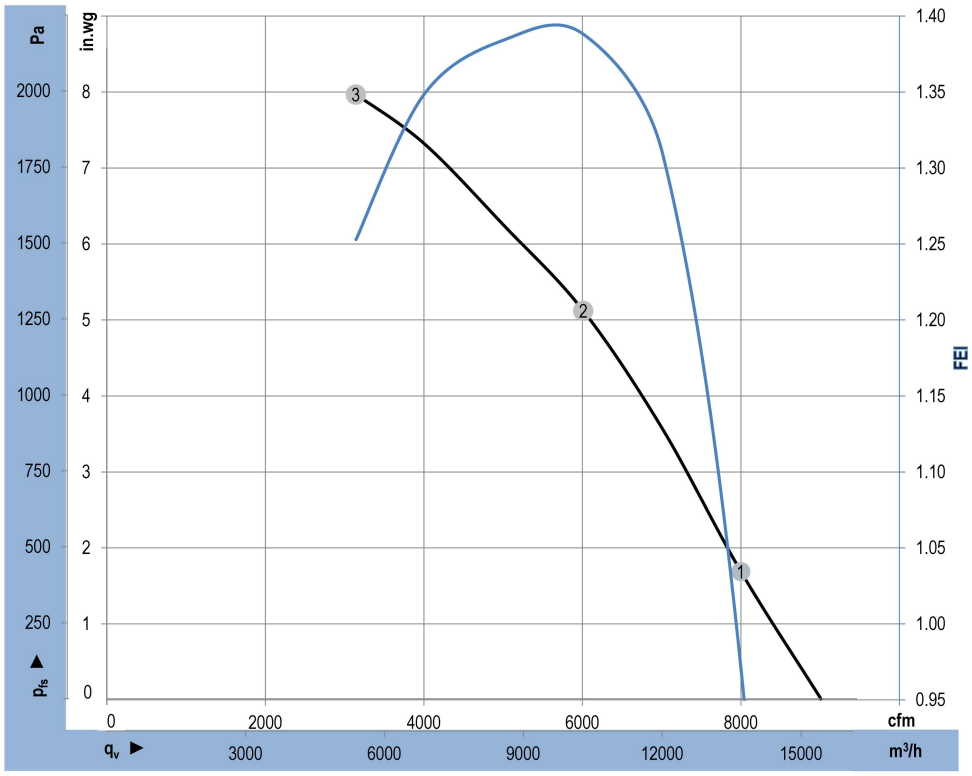
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2023

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Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	2608	4099	5.5	8000	1.7	0.97
2	3~	460	60	2605	5595	7.5	6011	5.1	1.39
3	3~	460	60	2608	5124	6.8	3142	8.0	1.25

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R240500GA

RadiPac - FanGrid Cube

with support bracket

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100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
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Nominal Data

Model	EG1R240500GA	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	1940
Power consumption	W	3859
Current draw	A	10.02
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	192 lb (87.3 kg)
Nominal impeller size	19.7 in (500 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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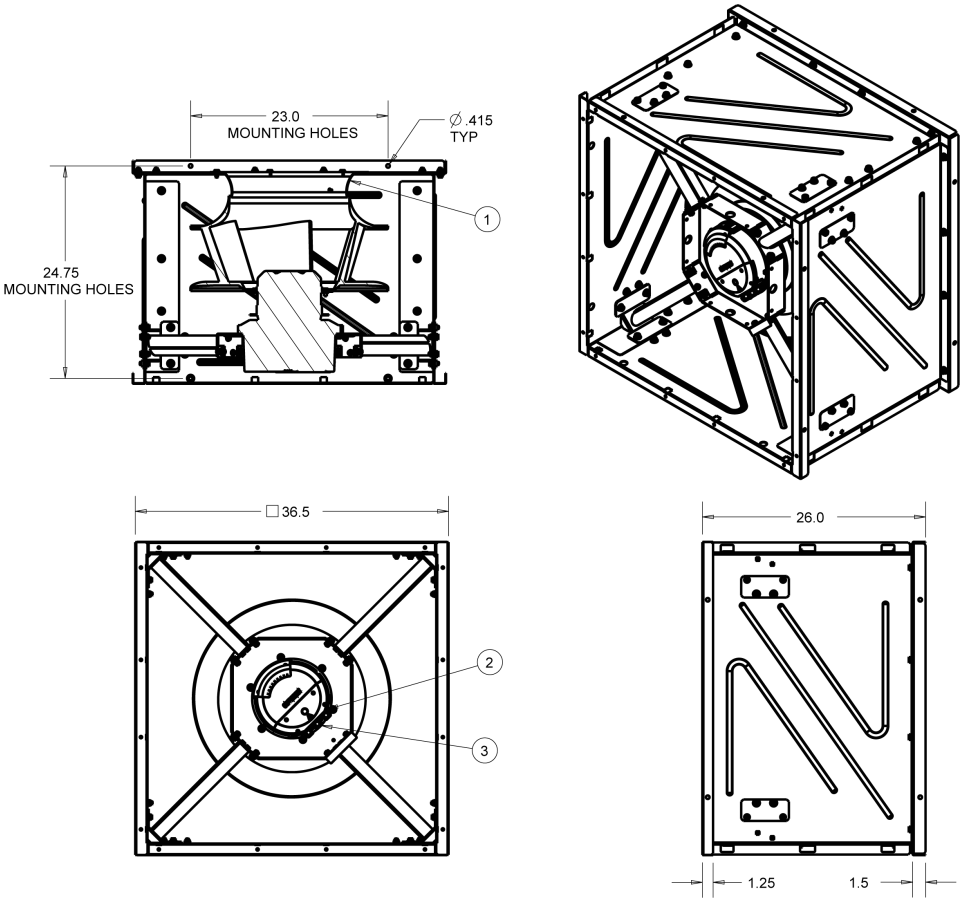
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 281 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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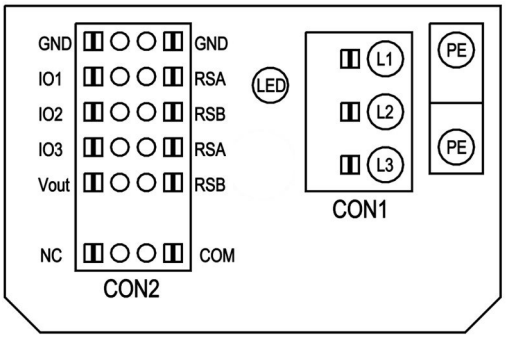
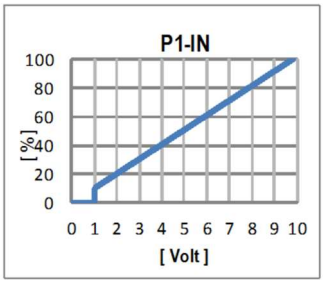
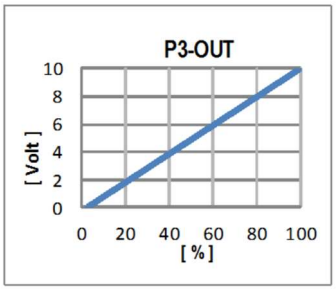
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value	INPUT: source: sensor value	INPUT: switch: parameter set: #1 / #2	INPUT: switch: control function: heating (pos.) / cooling (neg.)	INPUT: switch: direction of rotation: cw / ccw	INPUT: switch: set value source	INPUT: switch: fan enable / disable	OUTPUT: signal: tach out	OUTPUT: signal: diagnostics out	OUTPUT: signal: fan modulation level %	OUTPUT: signal: actual speed	OUTPUT: signal: system modulation level %	OUTPUT: signal: remote control output 0-10V	OUTPUT: pulse input for auto-adressing	OUTPUT: pulse output for auto-adressing
			D101 [...]	D147 [...]	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]		
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]		○	○	○	○	○	○	○							○	
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]	○															
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]		○	○	○	○	○	○	○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]	○															
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]	○															
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]		○	○	○	○	○	○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]		○														
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]	○															
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]	○															
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]											○	○	○		○	
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]									○							
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]										○						
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV		○		○	○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15..50VDC																	

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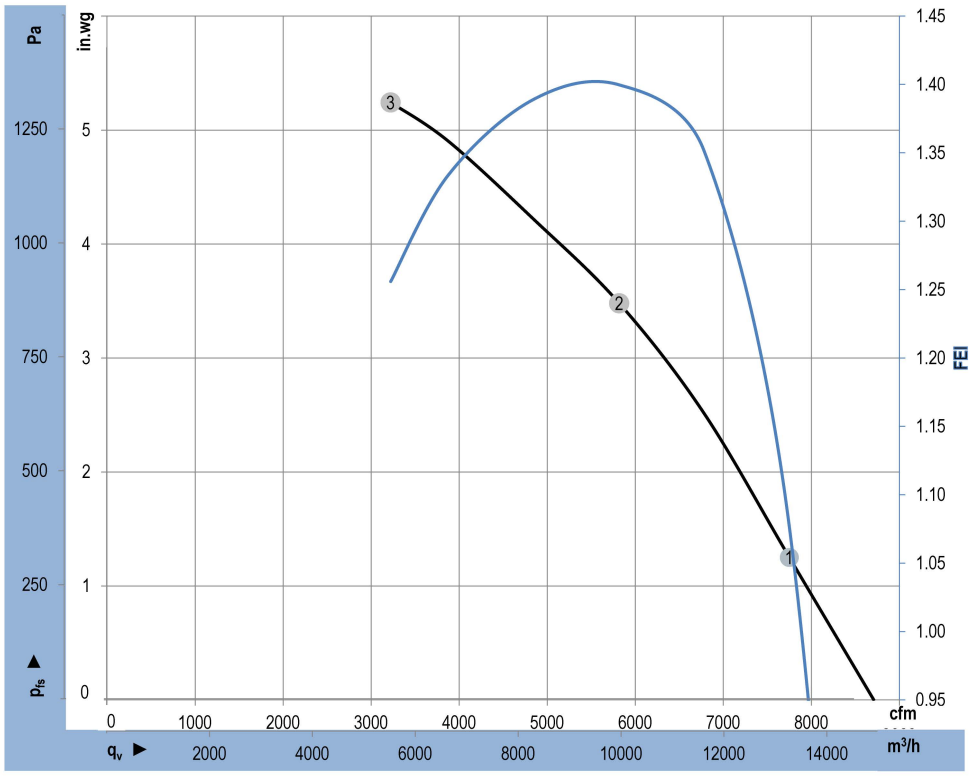
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2109

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	1940	2872	7.7	7750	1.3	1.08
2	3~	230	60	1941	3832	10.2	5818	3.5	1.40
3	3~	230	60	1940	3581	9.5	3222	5.2	1.26

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480500GA

RadiPac - FanGrid Cube

with support bracket

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Farmington, CT 06034
sales@us.ebmpapst.com
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Nominal Data

Model	EG1R480500GA	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	1995
Power consumption	W	4017
Current draw	A	5.4
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	113 (45)

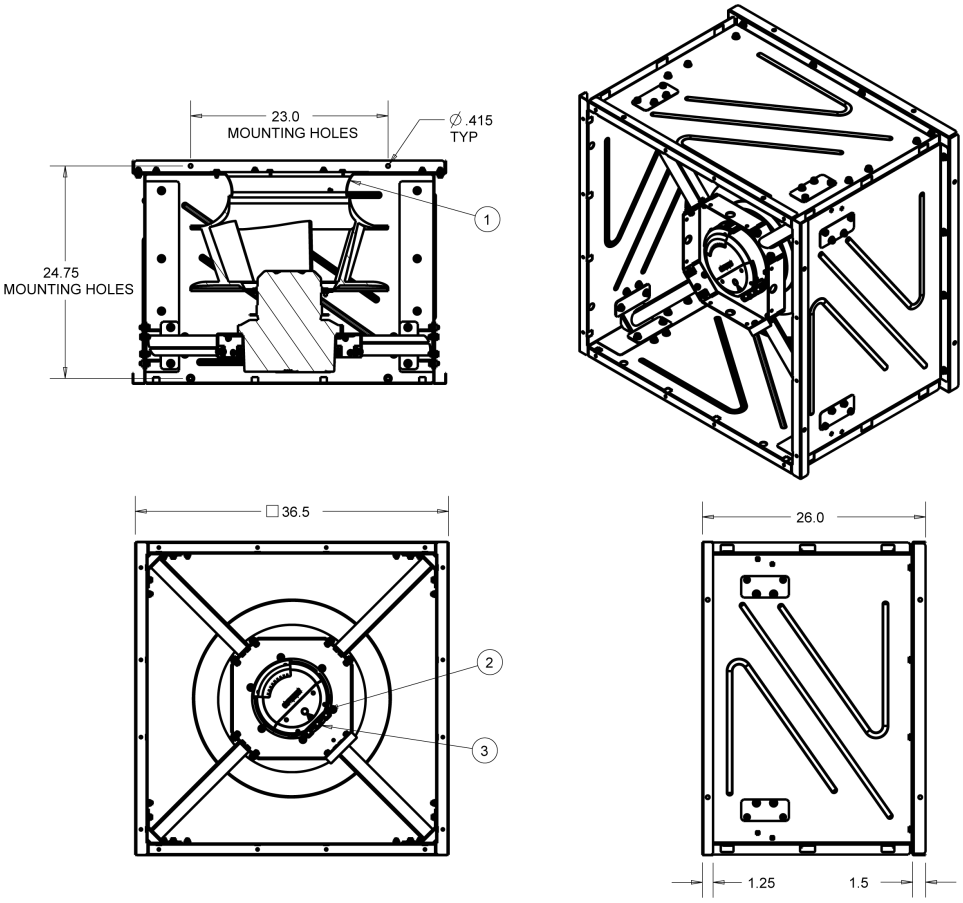
ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	202 lb (91.8 kg)
Nominal impeller size	19.7 in (500 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 281 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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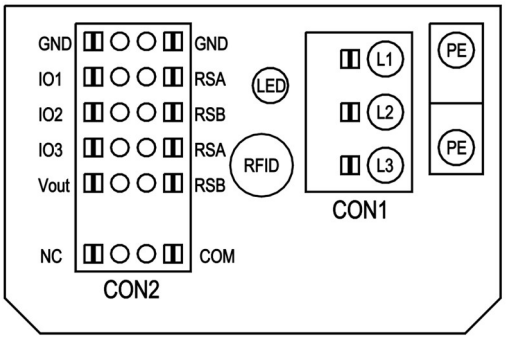
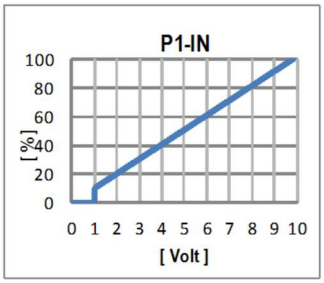
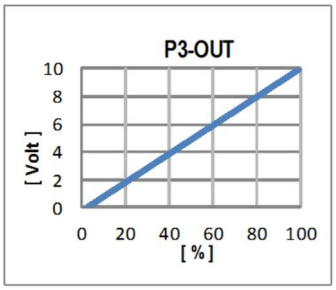
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 VDC / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 VDC, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: D101 [...] source: set value	INPUT: D147 [...] source: sensor value	INPUT: D104 [...] switch: parameter set: #1 / #2	INPUT: D12E [...] switch: control function: heating (pos.) / cooling (neg.)	INPUT: D148 [...] switch: direction of rotation: cw / ccw	INPUT: D16C [...] switch: set value source	INPUT: D16A [...] switch: fan enable / disable	OUTPUT: (selected directly via IO mode) signal: tach out	OUTPUT: (selected directly via IO mode) signal: diagnostics out	OUTPUT: D130 [0] signal: fan modulation level %	OUTPUT: D130 [1] signal: actual speed	OUTPUT: D130 [2] signal: system modulation level %	OUTPUT: D130 [5] signal: remote control output 0-10V	OUTPUT: D00C [1] pulse input for auto-adressing	OUTPUT: D130 [4] pulse output for auto-adressing
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]				○	○	○	○	○								○
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]		○	○													
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]				○	○	○	○	○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]		○	○													
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]																
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]				○	○	○	○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]																
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]		○														
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]		○														
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]											○	○	○	○		○
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]											○					
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]										○						
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV			○		○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	15...50VDC																	

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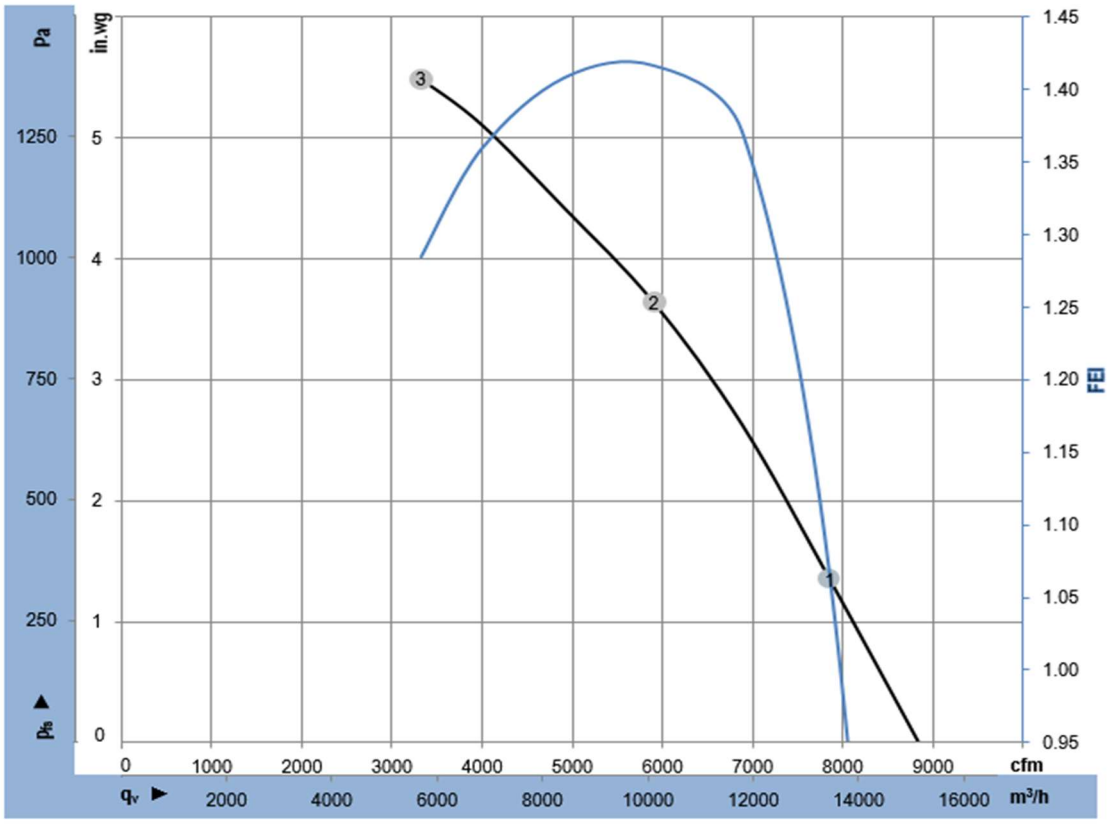
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2051

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	1997	3107	4.2	7861	1.3	1.06
2	3~	460	60	1995	3990	5.4	5903	3.6	1.42
3	3~	460	60	1997	3745	5.0	3321	5.5	1.28

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R240500GC

RadiPac - FanGrid Cube

with support bracket

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100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
www.ebmpapst.us

Nominal Data

Model	EG1R240500GC	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	2250
Power consumption	W	6053
Current draw	A	16.27
Min. ambient temp	°F (°C)	-13 (-25)
Max. ambient temp	°F (°C)	104 (40)

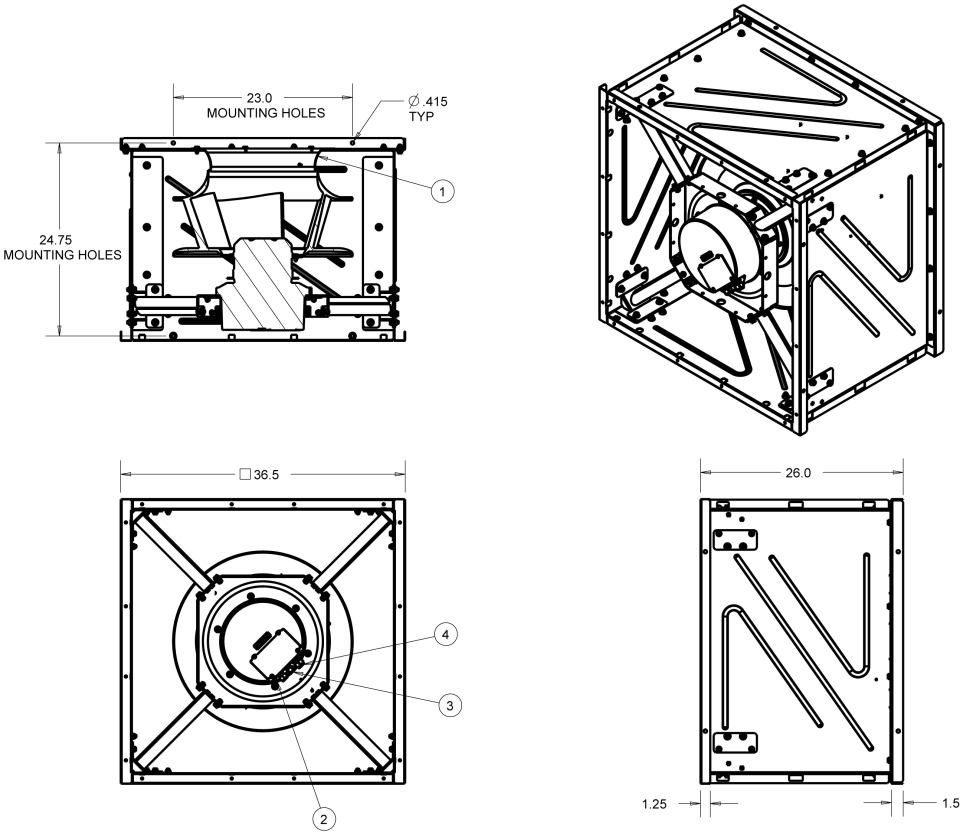
ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	215 lb (97.7 kg)
Nominal impeller size	19.7 in (500 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 VDC - Input for sensor 0-10 VDC or 4-20 mA - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 281 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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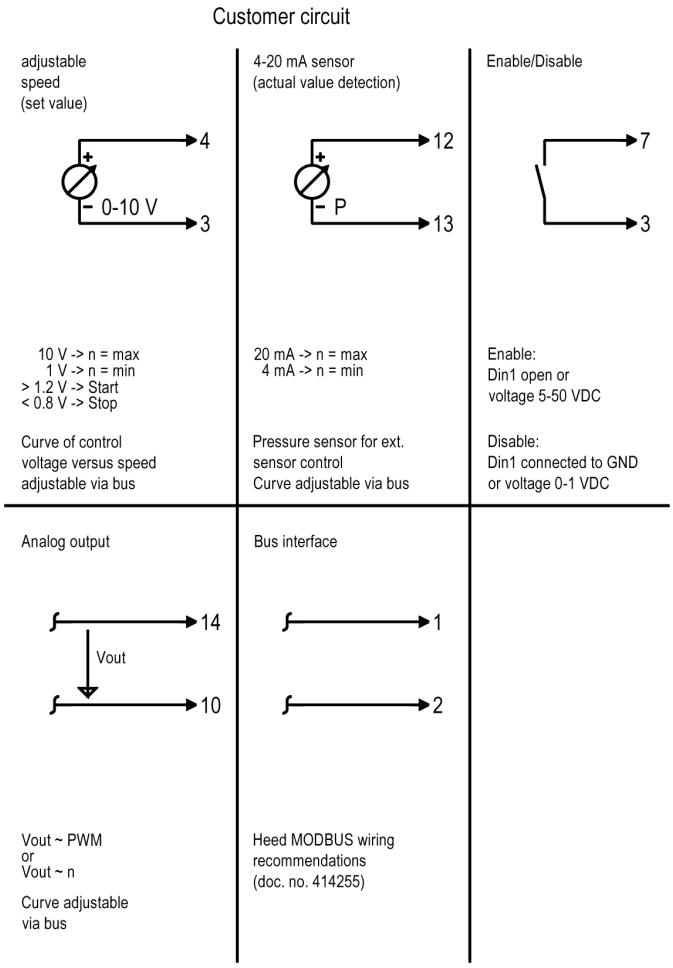
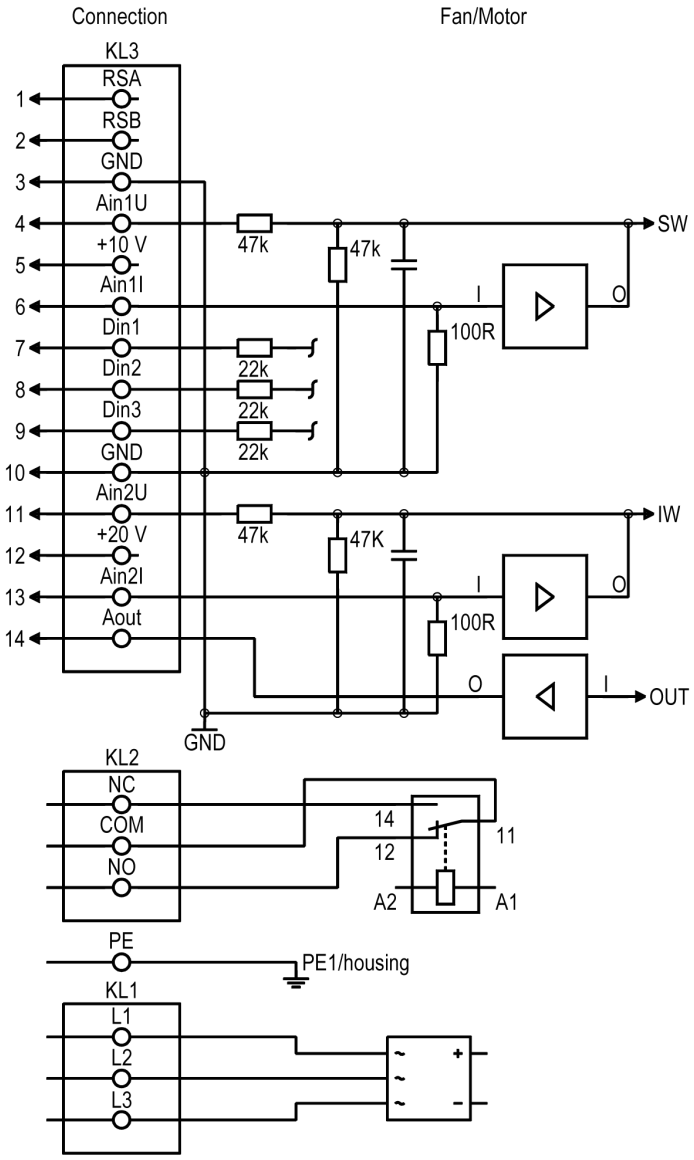
Electrical Interface





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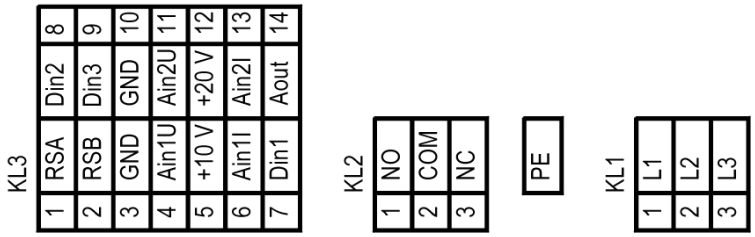
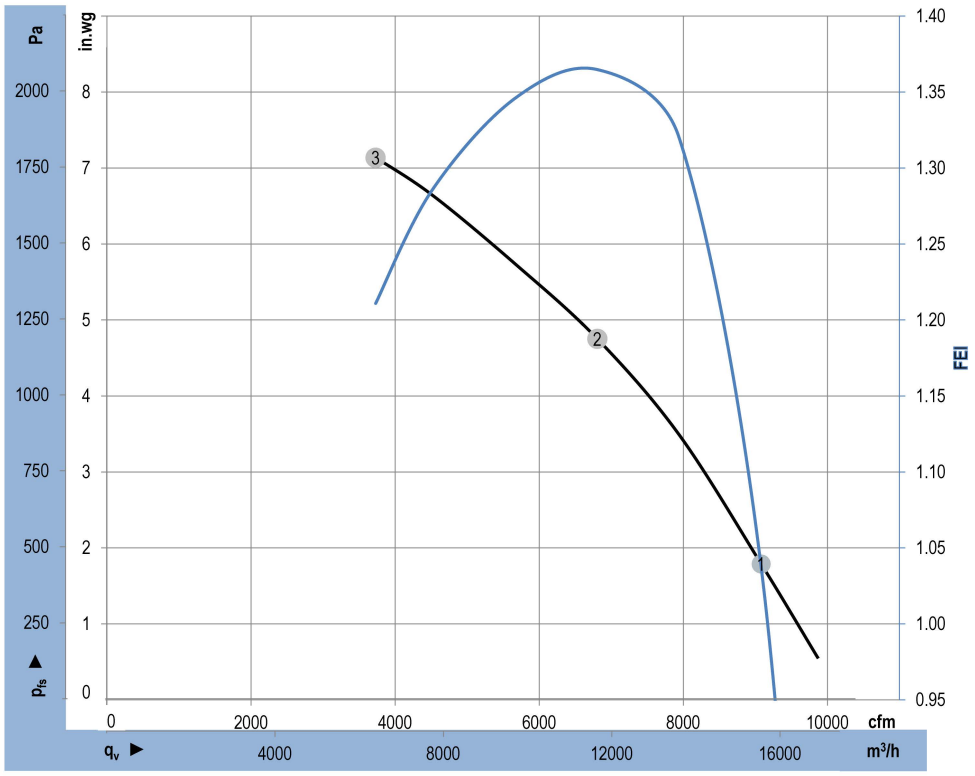
Terminal assignment

Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, make for failure
KL2	2	COM	Status relay, floating status contact, changeover contact, common connection, contact rating, max. 250 VAC/2 A (AC1)/min. 10 mA
KL2	3	NC	Status relay, floating status contact, break for failure
KL3	1	RSA	Bus connection RS485, RSA, MODBUS RTU; SELV
KL3	2	RSB	Bus connection RS485, RSB, MODBUS RTU; SELV
KL3	3/10	GND	Reference ground for control interface; SELV
KL3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV
KL3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ± 3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV
KL3 KL3	6	Ain1 I	Analog input 1, set value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain1 U; SELV
KL3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL3	9	Din3	Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected as normal/inverse via bus or digital input Normal: Pin open or applied voltage 5-50 VDC Inverse: Bridge to GND or applied voltage < 1 VDC; SELV
KL3	11	Ain2 U	Analog input 2, measured value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2 I; SELV
KL3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV Alternatively: +24 VDC input for parameterization without line voltage
KL3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2 U; SELV
KL3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level; adjustable curve; SELV



ρ = 0.075 lbm/ft³

Measurement: LU-2098

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Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	2250	4513	12.0	9081	1.8	1.04
2	3~	230	60	2251	5975	16.0	6808	4.8	1.36
3	3~	230	60	2252	5591	14.8	3729	7.1	1.21

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480500GC

RadiPac - FanGrid Cube

with support bracket

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Farmington, CT 06034
sales@us.ebmpapst.com
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Nominal Data

Model	EG1R480500GC	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	2255
Power consumption	W	6034
Current draw	A	8
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

RadiPac - FanGrid Cube

with support bracket

Technical Description	
Weight	215 lb (97.7 kg)
Nominal impeller size	19.7 in (500 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output for slave 0-10 VDC - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Motor protection	Reverse polarity and locked-rotor protection
Electrical hookup	Terminal box
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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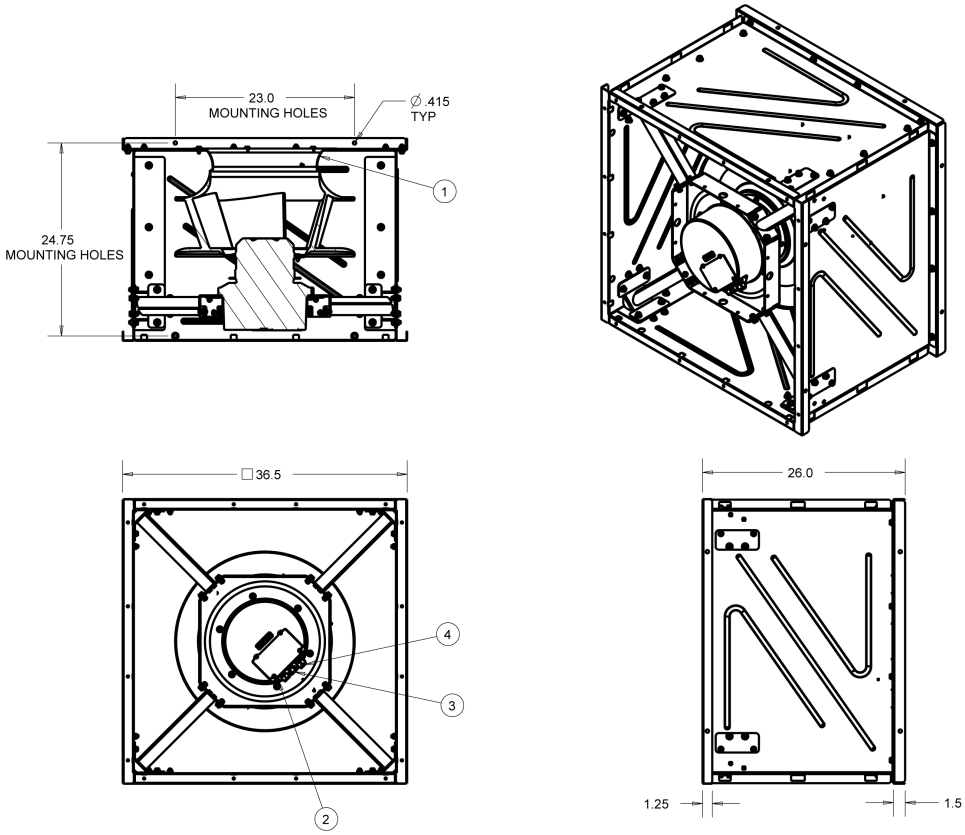
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 281 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79500-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 35506-2-2957 (not included in scope of delivery)

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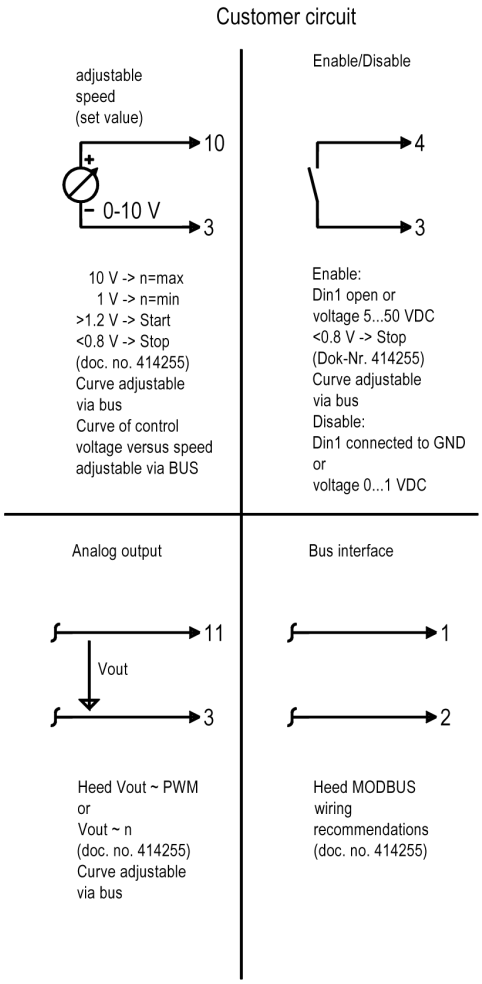
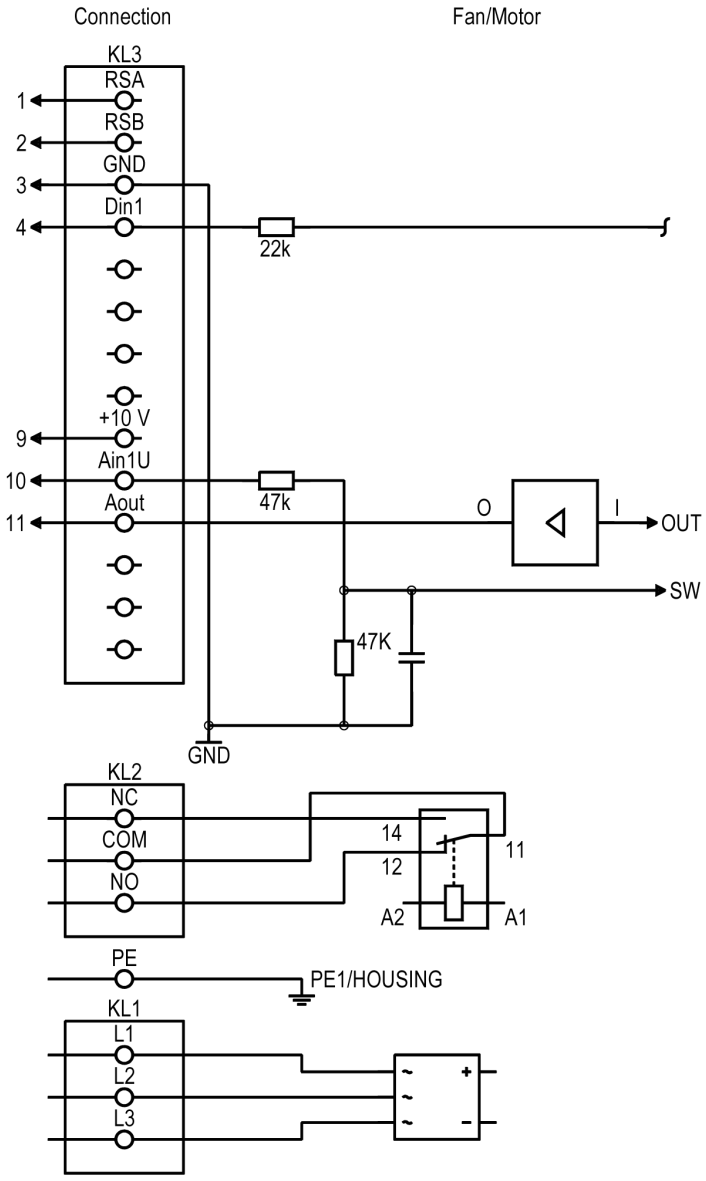
Electrical Interface





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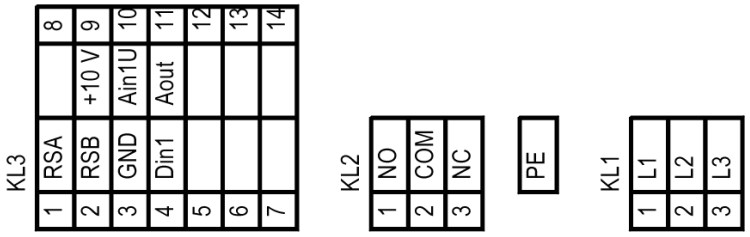
Terminal assignment

Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, option 1: make for failure, option 2: make for error for run monitor
KL2	2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
KL2	3	NC	Status relay, floating status contact, option 1: break for failure, option 2: break for error message for run monitor
KL3	1	RSA	RS485 interface for MODBUS, RSA; SELV
KL3	2	RSB	RS485 interface for MODBUS, RSB; SELV
KL3	3	GND	Reference ground for control interface; SELV
KL3	4	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	9	+10 V	Voltage output 10 V/max. 10 mA, power supply for external devices (e.g. potentiometers), SELV
KL3	10	Ain1U	Analog input 1, set value: 0-10 VDC, Ri = 100 kΩ, adjustable curve; SELV
KL3	11	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV
KL3	-	-	
KL3	-	-	
KL3	-	-	

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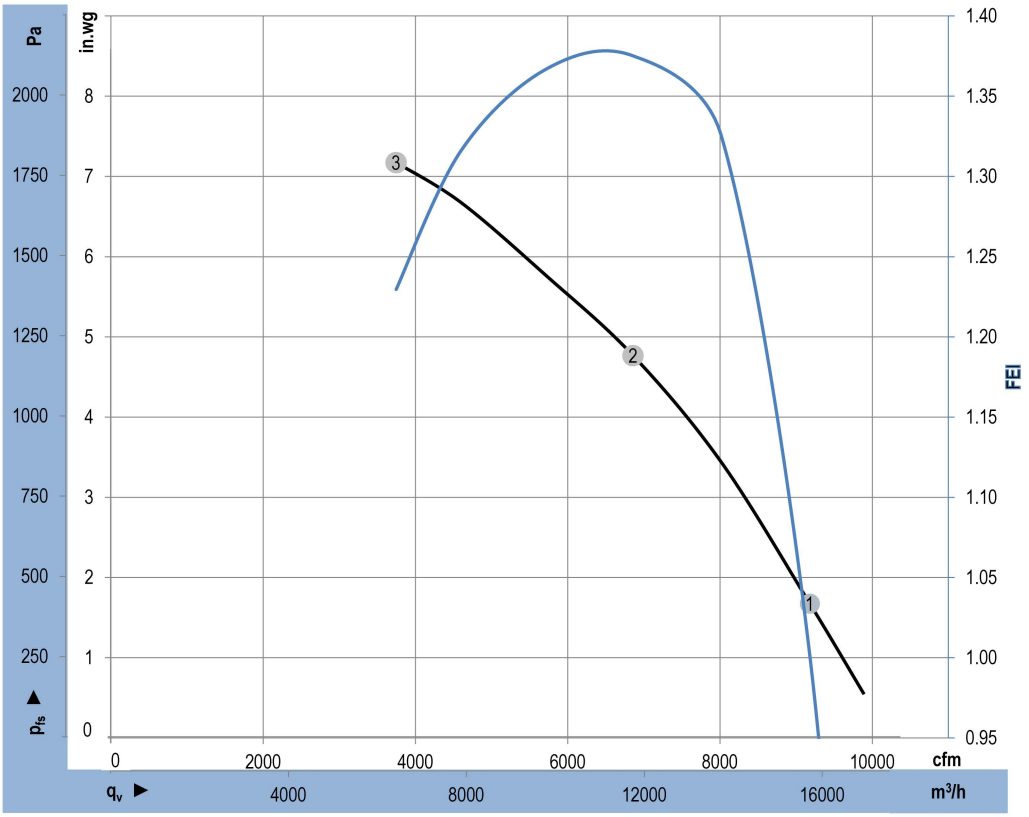
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2058

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Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	2255	4487	6.0	9180	1.7	1.00
2	3~	460	60	2255	5989	8.0	6859	4.8	1.38
3	3~	460	60	2255	5554	7.4	3746	7.2	1.23

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R240560GA

RadiPac - FanGrid Cube

with support bracket

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Farmington, CT 06034
sales@us.ebmpapst.com
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Nominal Data

Model	EG1R240560GA	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	1585
Power consumption	W	3733
Current draw	A	9.9
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

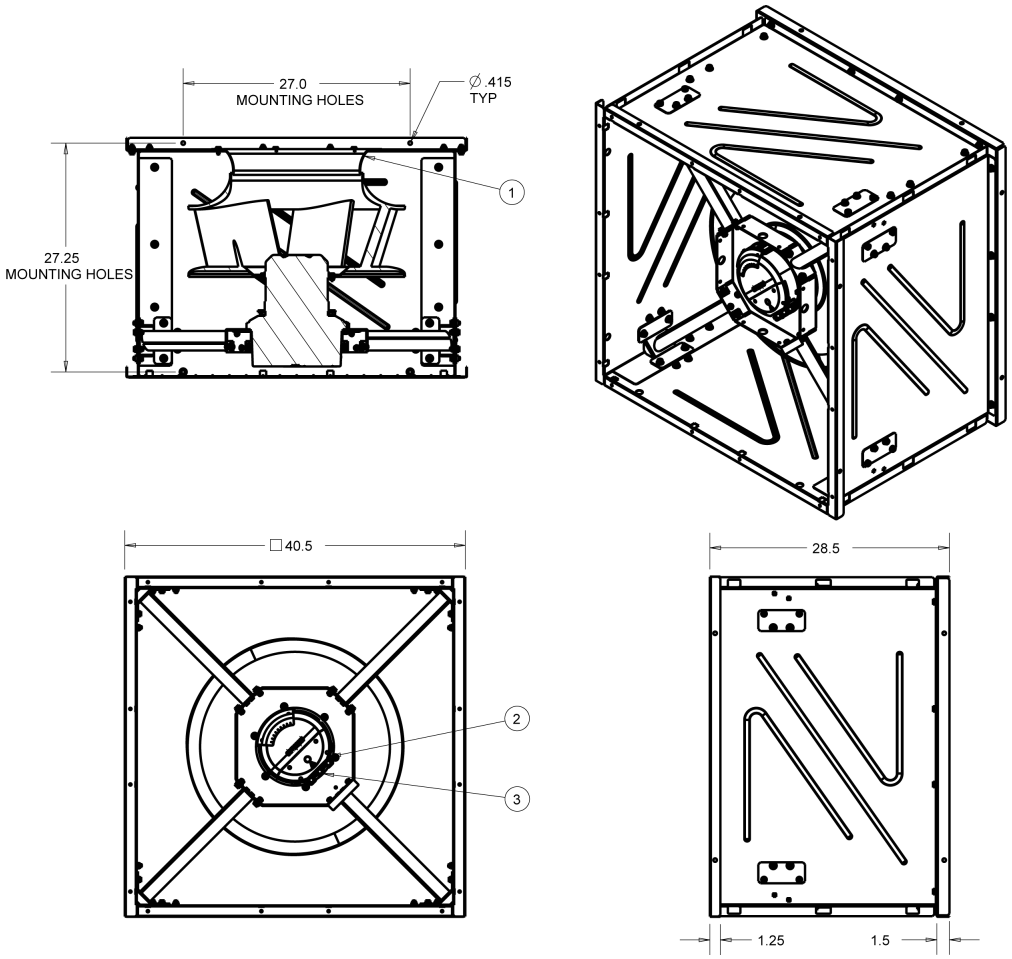
ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	228 lb (103.6 kg)
Nominal impeller size	22 in (560 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 348 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79560-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 00631-2-2957 (not included in scope of delivery)

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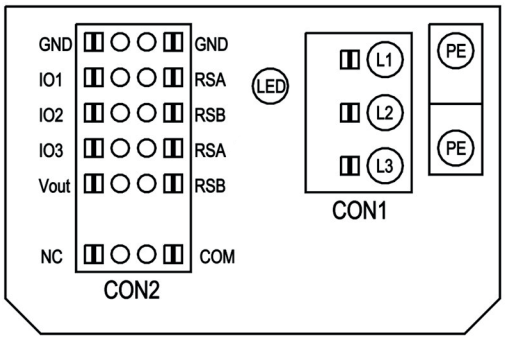
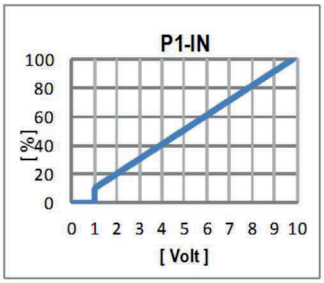
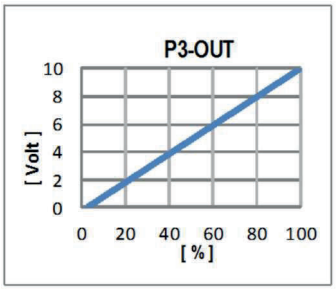
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 VDC / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 VDC, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value D101 [...]	INPUT: source: sensor value D147 [...]	INPUT: switch: parameter set: #1 / #2 D104 [...]	INPUT: switch: control function: heating (pos.) / cooling (neg.) D12E [...]	INPUT: switch: direction of rotation: cw / ccw D148 [...]	INPUT: switch: set value source D16C [...]	INPUT: switch: fan enable / disable D16A [...]	OUTPUT: signal: tach out (selected directly via IO mode)	OUTPUT: signal: diagnostics out (selected directly via IO mode)	OUTPUT: signal: fan modulation level % D130 [0]	OUTPUT: signal: actual speed D130 [1]	OUTPUT: signal: system modulation level % D130 [2]	OUTPUT: signal: remote control output 0-10V D130 [5]	OUTPUT: pulse input for auto-adressing D00C [1]	OUTPUT: pulse output for auto-adressing D130 [4]
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]				○	○	○	○	○							○	
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]		○											○	○		
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]				○	○	○	○	○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]		○														
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]																
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]					○	○	○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]																
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]		○														
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]		○														
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]											○	○	○	○		○
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]																
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]																
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV			○		○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxillary power supply for parameterization via RS485/MODBUS RTU without line voltage	15...50VDC																	

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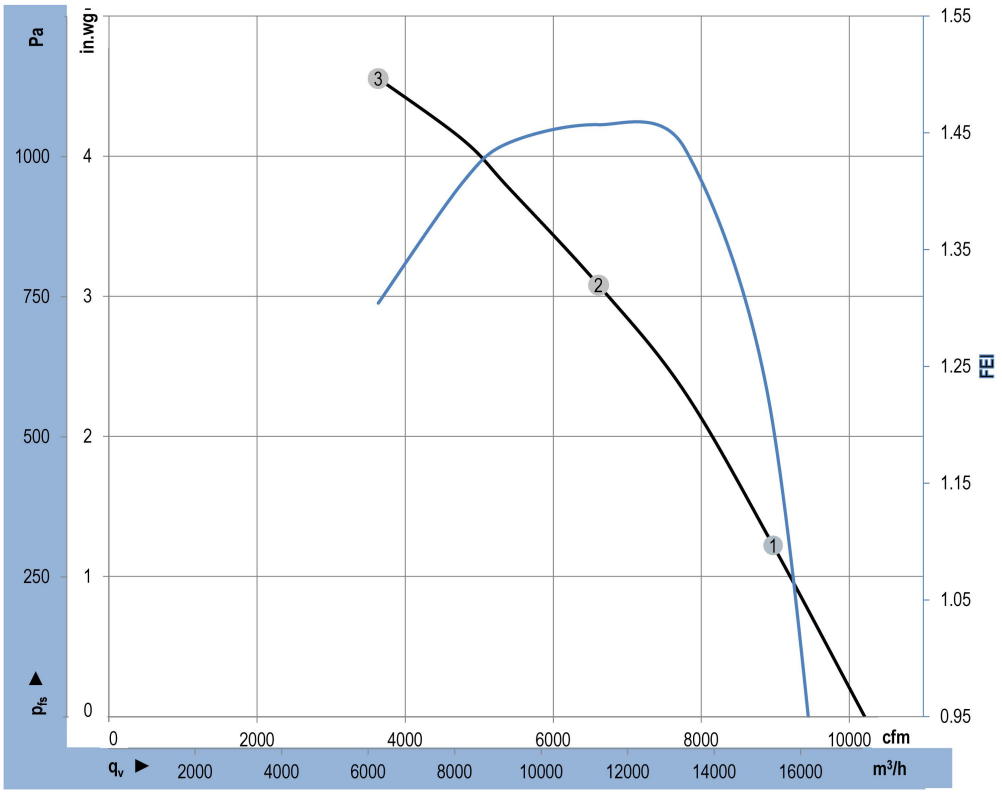
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2431

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	1587	2901	7.8	8971	1.2	1.20
2	3~	230	60	1588	3733	9.9	6612	3.1	1.46
3	3~	230	60	1586	3393	9.0	3637	4.6	1.30

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480560GA

RadiPac - FanGrid Cube

with support bracket

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Farmington, CT 06034
sales@us.ebmpapst.com
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Nominal Data

Model	EG1R480560GA	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	1685
Power consumption	W	4510
Current draw	A	6.0
Min. ambient temp	°F (°C)	-40 (-40)
Max. ambient temp	°F (°C)	104 (40)

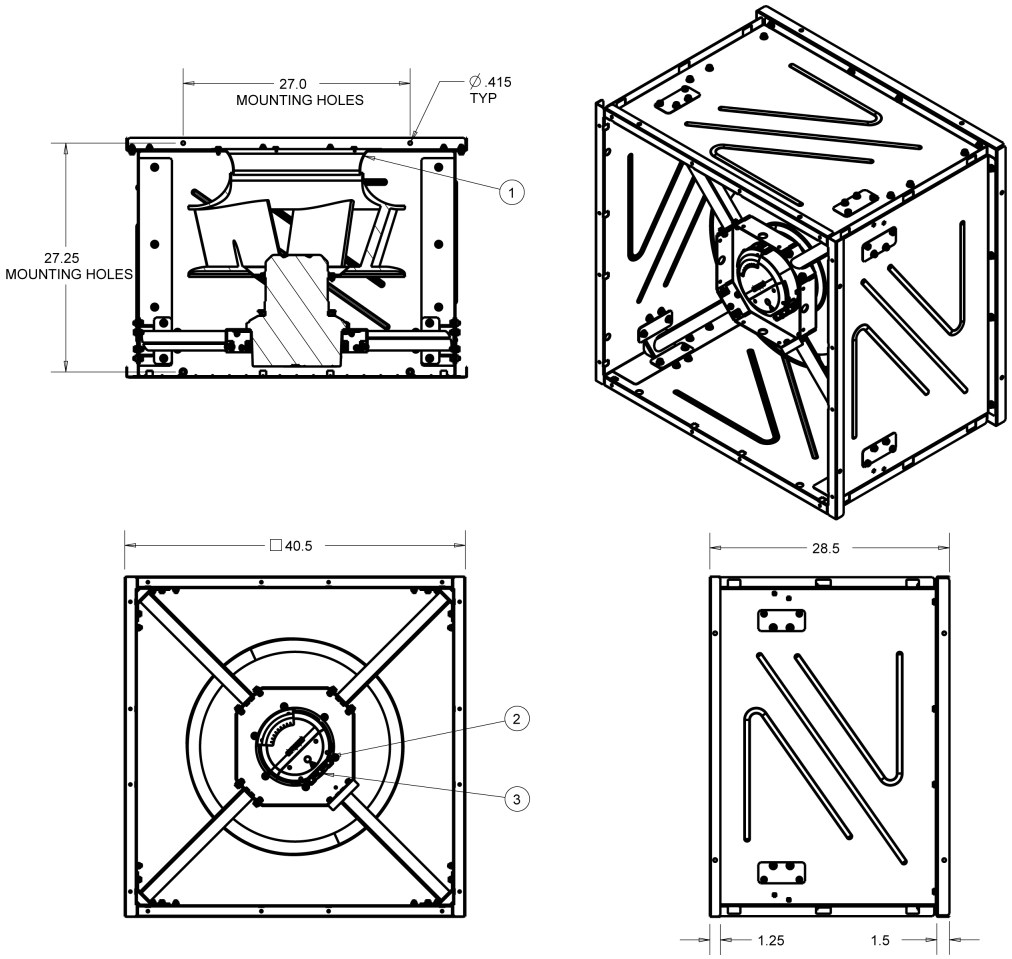
ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

Technical Description	
Weight	255 lb (116 kg)
Nominal impeller size	22 in (560 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 348 (available on some variations)
2	Terminal cover tightening torque: 13.3± 1.8 in-lbs (1.5±0.2 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79560-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 00631-2-2957 (not included in scope of delivery)

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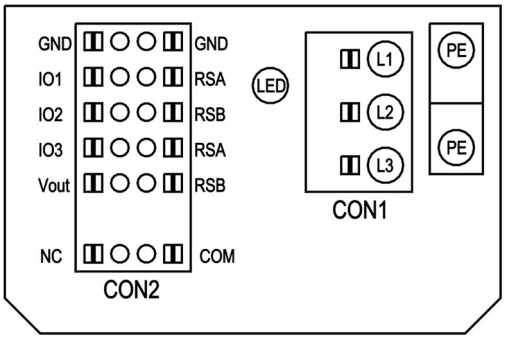
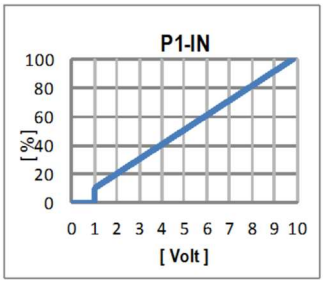
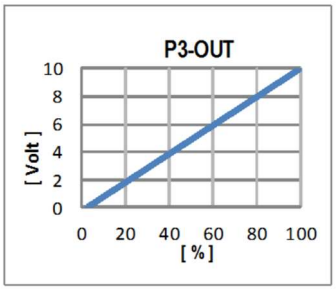
Electrical Interface







No.	Conn.	Desig.	Function/ Assignment
	CON1	L1,L2,L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see “Optional interface functions” table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function:Triggering of error reset on change of state from"enabled" to "disabled"
	CON2	IO2	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog input 0-10 VDC / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see “Optional interface functions” table) Factory setting: Analog output 0-10 VDC, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Terminal assignment

○ configurable option

For further information and additional functions see EC Control Software, or MODBUS Parameter Specification V6.3

CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	configurable IO functions: normal / inverse	INPUT: source: set value D101 [...]	INPUT: source: sensor value D147 [...]	INPUT: switch: parameter set: #1 / #2 D104 [...]	INPUT: switch: control function: heating (pos.) / cooling (neg.) D12E [...]	INPUT: switch: direction of rotation: cw / ccw D148 [...]	INPUT: switch: set value source D16C [...]	INPUT: switch: fan enable / disable D16A [...]	OUTPUT: signal: tach out (selected directly via IO mode)	OUTPUT: signal: diagnostics out (selected directly via IO mode)	OUTPUT: signal: fan modulation level % D130 [0]	OUTPUT: signal: actual speed D130 [1]	OUTPUT: signal: system modulation level % D130 [2]	OUTPUT: signal: remote control output 0-10V D130 [5]	OUTPUT: pulse input for auto-adressing D00C [1]	OUTPUT: pulse output for auto-adressing D130 [4]
IO1	○ **Din1 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D158 [0]		○		○	○	○	○	○							○	
	○ **Ain1 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D158 [2]		○	○													
	○ **Tach out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [5]									○							
	○ **Diagnostics out** (open collector output)	Umax = 50VDC, Imax = 20mA, SELV	D158 [6]										○						
IO2	○ **Din2 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D159 [0]				○	○	○	○	○								
	○ **Ain2 0-10V/PWM**: analog input	Ri = 100K, characteristic curve parameterizable, f_{PWM} = 1k..10KHz, SELV	D159 [2]		○	○													
	○ **Ain2 4-20mA**: analog input	Ri = 125R, characteristic curve parameterizable, SELV	D159 [3]																
IO3	○ **Din3 (active high)**: digital input	active: applied voltage 3,5-50VDC, SELV not active: pin open or applied voltage < 1,5VDC	D15A [0]					○	○	○	○								
	○ **Din3 (active low)**: digital input	active: applied voltage < 1,5VDC, SELV not active: pin open or applied voltage 3,5-50VDC	D15A [1]																
	○ **PWMin3**: digital input idle level high	PWM = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3,5-50VDC not active: applied voltage < 1,5VDC, SELV	D15A [7]		○														
	○ **PWMin3**: digital input idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3,5-50VDC not active: pin open or applied voltage < 1,5VDC, SELV	D15A [8]		○														
	○ **Aout3 0-10V**: analog output	function parameterizable, max. 5mA, max output frequency 300Hz, SELV	D15A [4]											○	○	○	○		
	○ **Tacho out** (pulses), analog output	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [5]										○						
	○ **Diagnostics out** (pulses)	0-10V max. 5mA, max output frequency 300Hz, SELV	D15A [6]																
RSA RSB	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV			○		○	○	○	○	○								
Vout	voltage output	voltage parameterizable 3,3...24VDC +/- 5%, Pmax=800mW, short-circuit-proof, supply for external devices, SELV	D16E [...]																
	alternatively: Input auxillary power supply for parameterization via RS485/MODBUS RTU without line voltage	15...50VDC																	

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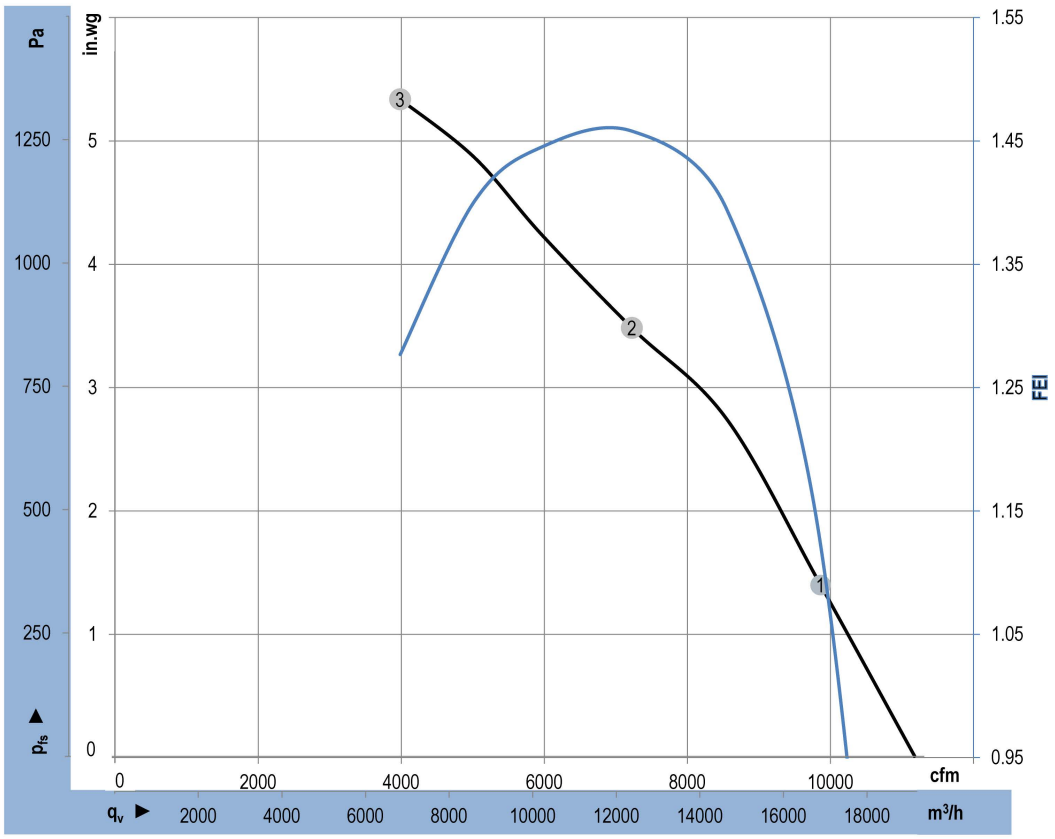
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2427

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	1700	3734	5.0	9862	1.4	1.12
2	3~	460	60	1673	4500	6.0	7225	3.5	1.46
3	3~	460	60	1701	4329	5.8	3985	5.3	1.28

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R240560GC

RadiPac - FanGrid Cube

with support bracket

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Farmington, CT 06034
sales@us.ebmpapst.com
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Nominal Data

Model	EG1R240560GC	
Motor	M3G150-NA	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200-240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	1765
Power consumption	W	5276
Current draw	A	14.0
Min ambient temp	°F (°C)	-13 (-25)
Max ambient temp	°F (°C)	104 (40)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

RadiPac - FanGrid Cube

with support bracket

Technical Description	
Weight	255 lb (116 kg)
Nominal impeller size	22 in (560 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 VDC - Input for sensor 0-10 VDC or 4-20 mA - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Motor protection	Reverse polarity and locked-rotor protection
Electrical hookup	Terminal box
Protection class	I (with customer connection of protective earth)
Approvals	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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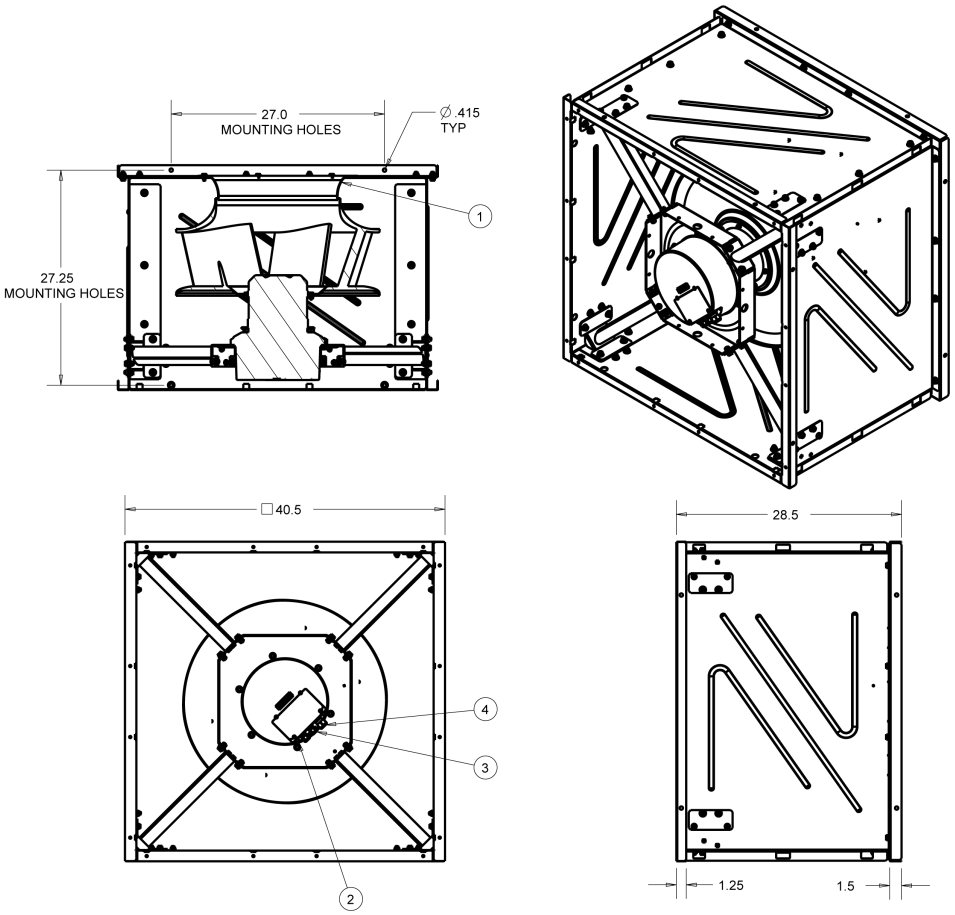
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 348 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79560-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 00631-2-2957 (not included in scope of delivery)

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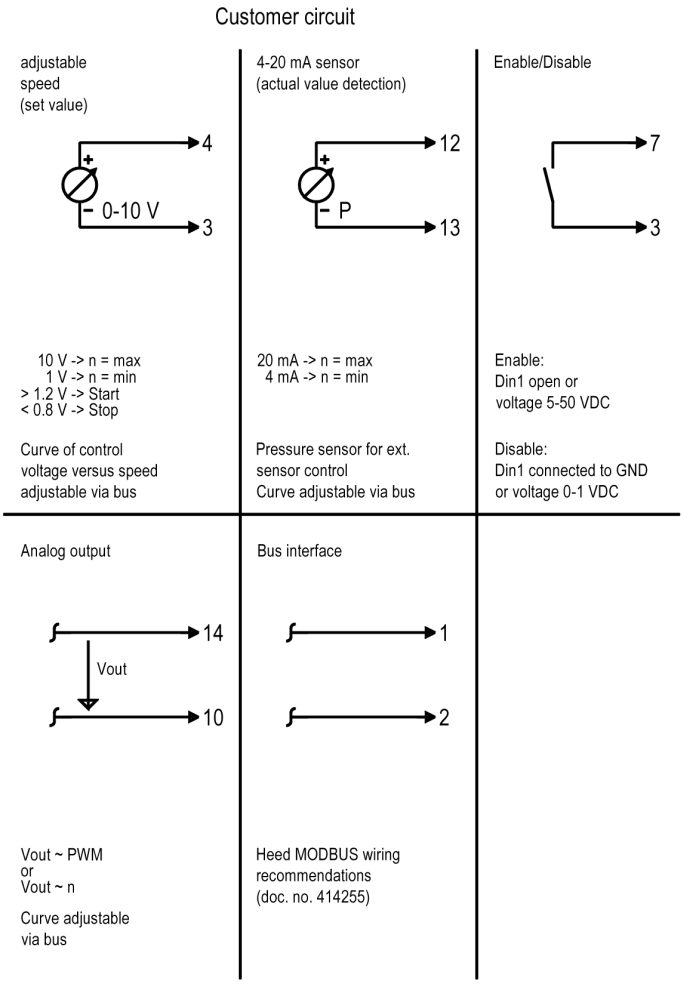
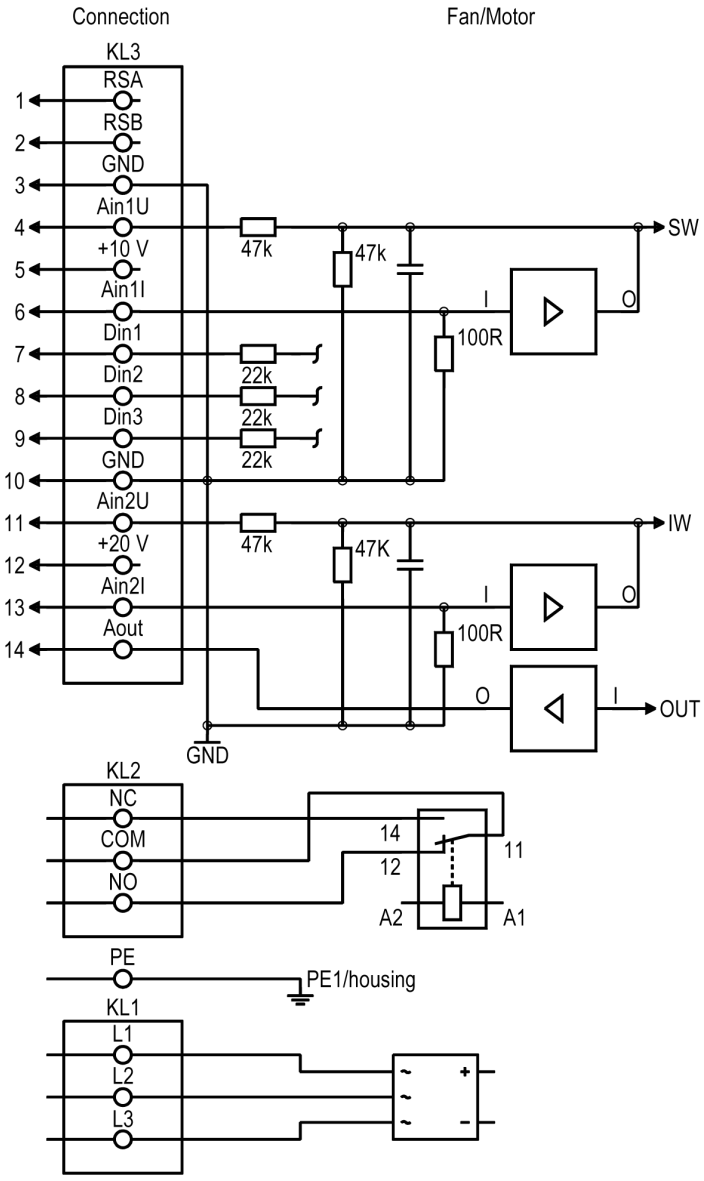
Electrical Interface





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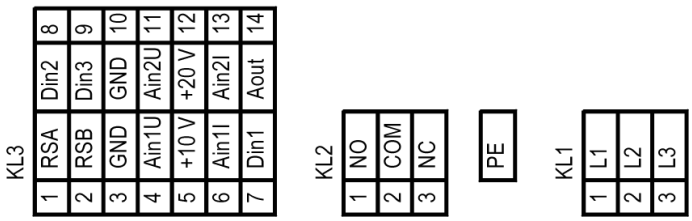
Terminal assignment

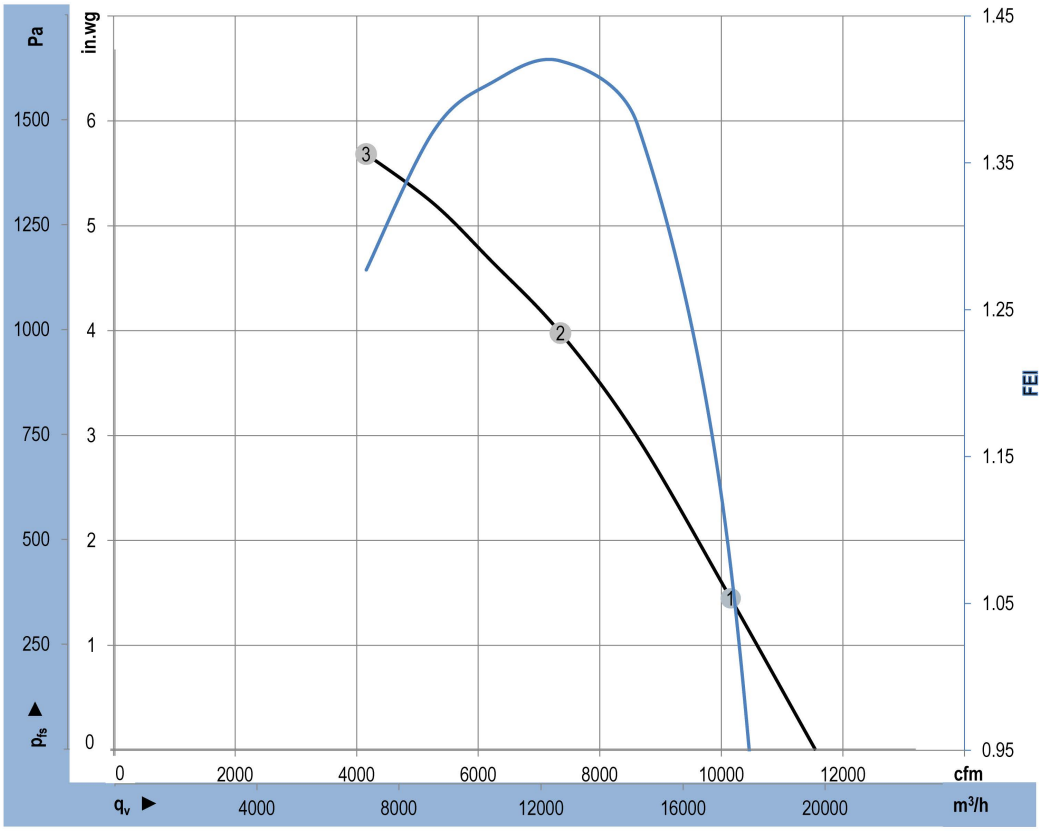
Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, make for failure
KL2	2	COM	Status relay, floating status contact, changeover contact, common connection, contact rating, max. 250 VAC/2 A (AC1)/min. 10 mA
KL2	3	NC	Status relay, floating status contact, break for failure
KL3	1	RSA	Bus connection RS485, RSA, MODBUS RTU; SELV
KL3	2	RSB	Bus connection RS485, RSB, MODBUS RTU; SELV
KL3	3/10	GND	Reference ground for control interface; SELV
KL3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV
KL3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ± 3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV
KL3 KL3	6	Ain1 I	Analog input 1, set value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain1 U; SELV
KL3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL3	9	Din3	Digital input 3: Direction of action of integrated controller, according to EEPROM setting, the direction of action of the integrated controller can be selected as normal/inverse via bus or digital input Normal: Pin open or applied voltage 5-50 VDC Inverse: Bridge to GND or applied voltage < 1 VDC; SELV
KL3	11	Ain2 U	Analog input 2, measured value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2 I; SELV
KL3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV Alternatively: +24 VDC input for parameterization without line voltage
KL3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2 U; SELV
KL3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level; adjustable curve; SELV

RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2413

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Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	230	60	1767	4111	11.0	10150	1.4	1.08
2	3~	230	60	1767	5276	14.0	7353	4.0	1.42
3	3~	230	60	1767	4758	12.7	4156	5.7	1.28

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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EG1R480560GC

RadiPac - FanGrid Cube

with support bracket

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100 Hyde Road
Farmington, CT 06034
sales@us.ebmpapst.com
www.ebmpapst.us

Nominal Data

Model	EG1R480560GC	
Motor	M3G150-NA	
Phase		3~
Nominal voltage	VAC	460
Nominal voltage range	VAC	400-480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	rpm	1765
Power consumption	W	5127
Current draw	A	6.8
Min ambient temp	°F (°C)	-40 (-40)
Max ambient temp	°F (°C)	104 (40)

ml = Max. load (maximum fan input power over the range cataloged)
Subject to change

Speed (rpm) shown is nominal.
Performance is based on actual speed of test.

RadiPac - FanGrid Cube

with support bracket

Technical Description	
Weight	255 lb (116 kg)
Nominal impeller size	22 in (560 mm)
Motor size	150
Rotor surface	Painted black
Impeller material	Sheet aluminum
Housing material	Sheet steel, galvanized
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	F
Environmental class	H1
Ambient temp. note	Occasional startup between -40 °F & -13 °F (-40 °C & -25 °C) is permitted. For continuous operation below -13 °F (-25 °C), use a fan design with special low-temp bearings.
Max. ambient temp.	176 °F (+80 °C) (for motor transport/storage)
Min. ambient temp.	-40 °F (-40 °C) (for motor transport/storage)
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drain holes	On rotor side
Mode	S1
Motor bearing	Ball bearings
Technical features	- Output 10 VDC, max. 10 mA - Output for slave 0-10 VDC - External 24 VDC input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current	≤ 3.5 mA (according to IEC60990; measuring circuit Fig.4, TN system)
Motor protection	Reverse polarity and locked-rotor protection
Electrical hookup	Terminal box
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approvals	UL1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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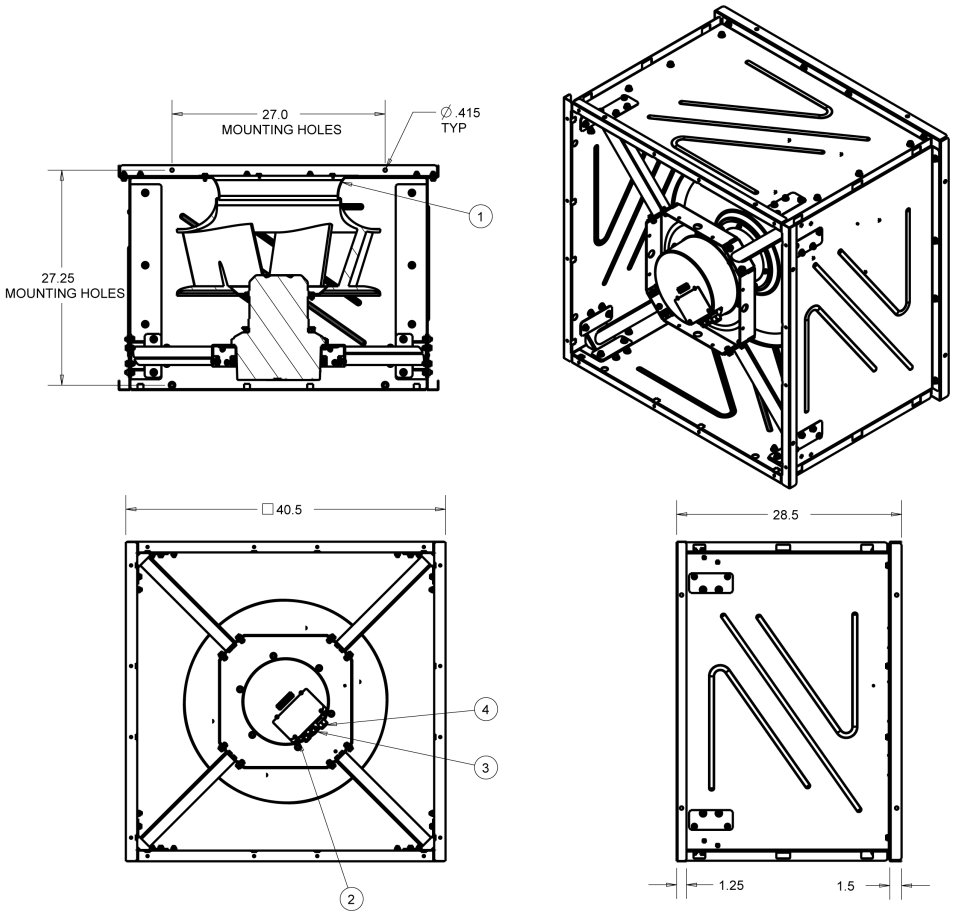
Product drawing

Dimensions in inches



1	Inlet ring with pressure tap K-factor (m³/h & Pa): 348 (available on some variations)
2	Terminal cover tightening torque: 31± 4.4 in-lbs (3.5±0.5 Nm)
3	Cable diameter: 0.16-0.39 in (4-10 mm) Cable gland tightening torque: 35.4±5.3 in-lbs (4±0.6 Nm)
4	Cable diameter: 0.35-0.63 in (9-16 mm) Cable gland tightening torque: 53.1±8 in-lbs (6±0.9 Nm) Please contact ebm-papst if conduit is required
	In a shaft horizontal orientation, the cable glands need to be located at the bottom and the cables must always be routed downwards
	Accessory part: Inlet finger guard p/n 79560-2-4039 (not included in scope of delivery)
	Accessory part: FlowGrid p/n 00631-2-2957 (not included in scope of delivery)

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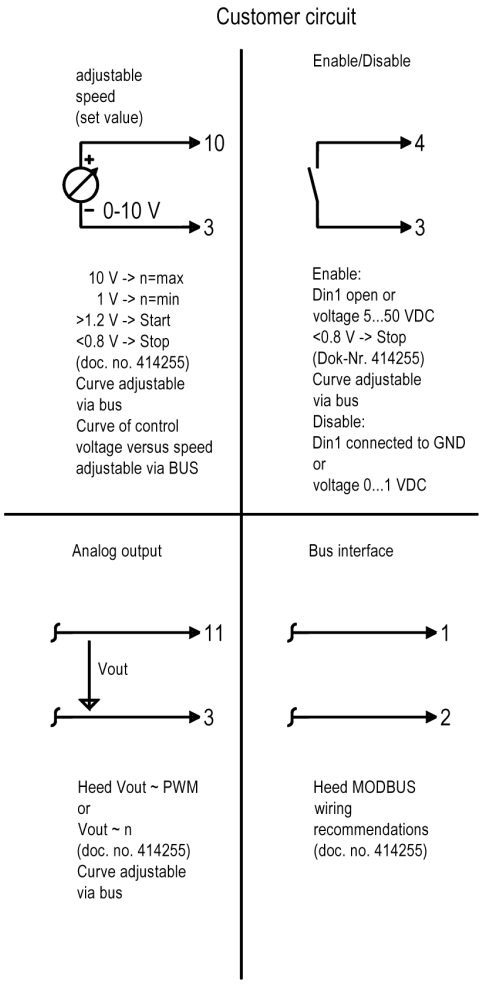
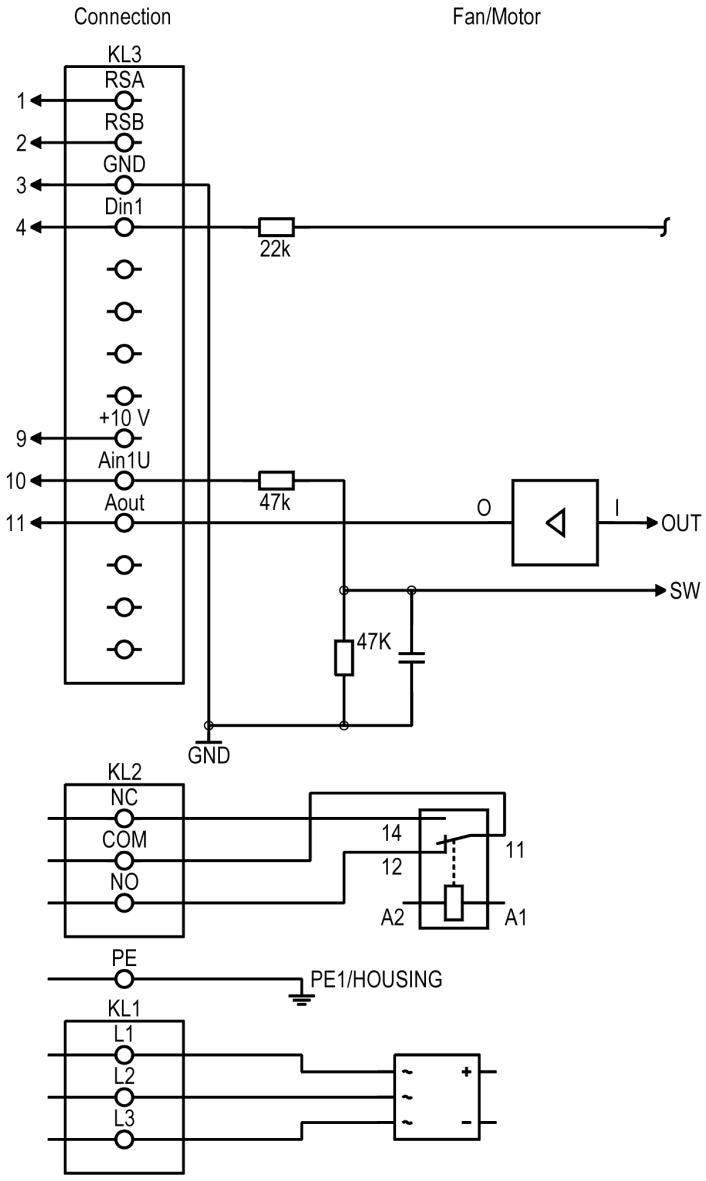
Electrical Interface





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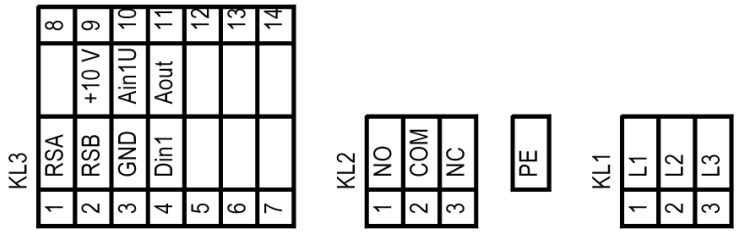
Terminal assignment

Terminal box connection diagram



No.	Conn.	Designation	Function/Assignment
KL1	1,2,3	L1, L2, L3	Power supply, phase, see nameplate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, option 1: make for failure, option 2: make for error for run monitor
KL2	2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
KL2	3	NC	Status relay, floating status contact, option 1: break for failure, option 2: break for error message for run monitor
KL3	1	RSA	RS485 interface for MODBUS, RSA; SELV
KL3	2	RSB	RS485 interface for MODBUS, RSB; SELV
KL3	3	GND	Reference ground for control interface; SELV
KL3	4	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL3	9	+10 V	Voltage output 10 V/max. 10 mA, power supply for external devices (e.g. potentiometers), SELV
KL3	10	Ain1U	Analog input 1, set value: 0-10 VDC, Ri = 100 kΩ, adjustable curve; SELV
KL3	11	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV
KL3	-	-	
KL3	-	-	
KL3	-	-	

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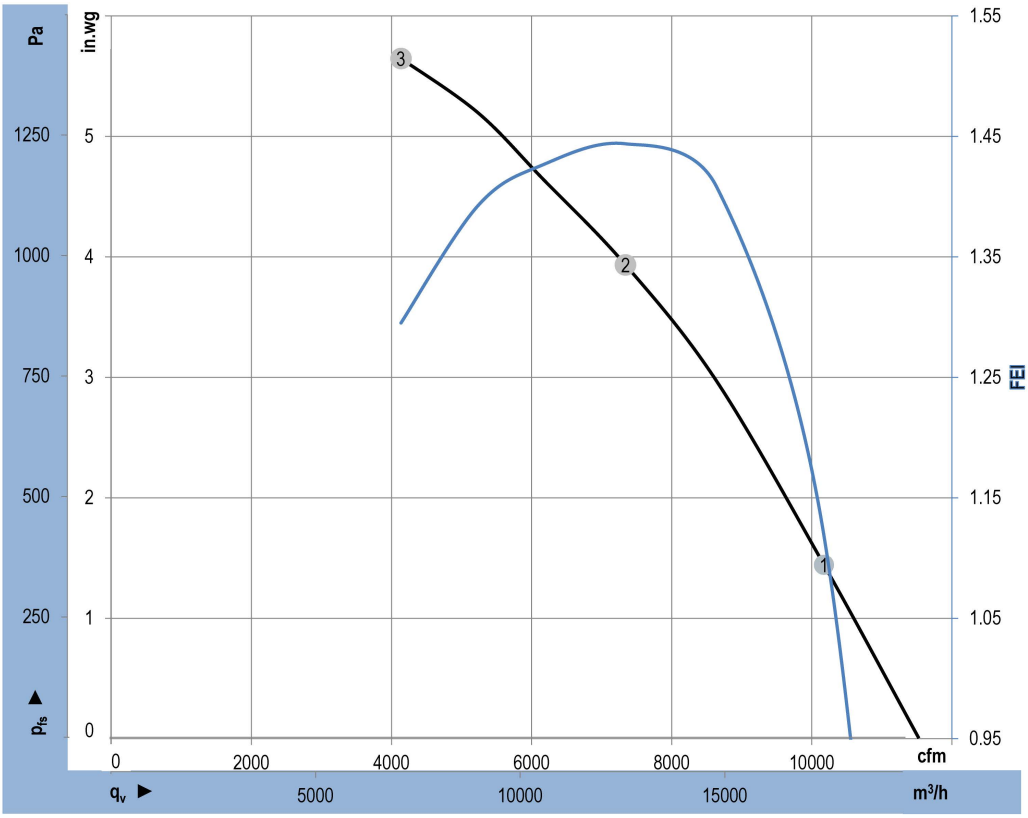
RadiPac - FanGrid Cube

with support bracket



ρ = 0.075 lbm/ft³

Measurement: LU-2409

ebm-papst Inc. certifies that the RadiPac - FanGrid Cube shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Performance Ratings

		U	f	n	P_{ed}	I	q_v	p_{fs}	FEI
		V	Hz	rpm	W	A	cfm	in. wg	
1	3~	460	60	1765	3948	5.3	10175	1.4	1.12
2	3~	460	60	1765	5127	6.8	7341	3.9	1.44
3	3~	460	60	1764	4643	6.2	4136	5.6	1.30

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Electrical power · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

Performance certified is for installation type A - Free inlet, Free outlet.
Rating Method "E" (Direct Drive, As Run Speed)
Performance ratings include the effects of support brackets.

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