



YEAR	MAKE/MODEL	VALVE SIZE or ETB (Electronic Throttle Body)	CONTROL / RESET	KIT #	INSTALL MAN UAL	PRODUCT CODE
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CLASS 3-5 APPLICATIONS

PICK-UP TRUCK / CHASSIS CAB TRUCKS

All PH3 kits are 12 VDC unless otherwise stated

DODGE / RAM

6.7L Cummins Diesel Engines

2013-	RA	6.7L CUMMINS DIESEL ENGINE	3.5	Auto / Auto Auto / Manual	C50254	6409	PH
2018	M	6.7L CUMMINS DIESEL ENGINE	"	Auto / Auto Auto / Manual	A	6492 / 6493	3
2019-	RA		3.5		C60330		PH
2020	M		"		A		3

6.7L Power Stroke Diesel Engines

2017-2020	FORD	6.7L POWER STROKE DIESEL ENGINE	2.75"	Auto / Auto Auto / Manual	C50278A	6423	PH3
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GMC/CHEVROLET

6.6L Duramax Diesel Engines

2017-2020	GMC	6.6L DURAMAX (L5P)	2.75"	Auto / Auto Auto / Manual	C50287A	6446	PH3
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MERCEDES

3.0L V6 Engines

2011-	MERCEDES	3.0L V6 ENGINE	2.2	Auto / Auto or Auto / Manual	C50230A	631	PH
2015	SPRINTER	3.0L V6 ENGINE	5"	Manual / Auto	C60252T-10	3	3
2019-	MERCEDES		2.2			649	PH
2022	SPRINTER		5"			5	3

MAKE/MODEL	VALVE SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL	PRODUCT CODE
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CLASS6-8 / OFF-HIGHWAY APPLICATIONS
COMMERCIAL HEAVY DUTY TRUCKS / STATIONARY EQUIPMENT

All PH3 kits are 12 VDC unless otherwise stated

1.5" VALVES

AUTOMATIC

MAG 3/8" w/ 5' HARNESS

AUTOMATIC

MAG 3/8" w/10'HARNESS

1.5

Auto / Auto or Manual Electri

C60321A

6492 / 6493

PH

"

Auto / Auto or Manual c

C60321A-

6492 / 6493

3

AUTOMATIC

CUMMINS CRANK POSITION WIRE T-JUMPER

1.5

Auto / Auto or Manual Electri

10

6492 / 6493

PH

w/ 10' HARNESS

AUTOMATIC – R Terminal

"

Auto / Auto or Manual c

C60321A-

6492 / 6493

3

R TERMINAL w/ 5' HARNESS

AUTOMATIC – R Terminal

R TERMINAL w/ 10' HARNESS

1.5

Auto / Auto or Manual Electri

J10

6492 / 6493

PH

MANUAL HARNESS – 12 & 24 VDC

"

Manual / Auto

c

C60321A-R

6495

3

MANUAL HARNESS – 12 & 24 VDC

1.5

Manual / Auto

Electri

C60321A-

6495

PH

MANUAL HARNESS – 12 & 24 VDC

"

Manual / Auto

c

R10

3

1.75" VALVES

AUTOMATIC

MAG 3/8" w/ 5' HARNESS

AUTOMATIC

1.5

Electri

C60321T

PH

"

c

C60321T-10

3

AUTOMATIC

1.7

Auto / Auto or Manual Electri

C60321A-

6492 / 6493

PH

AUTOMATIC

1.5

Electri

C60321A-

6492 / 6493

PH

MAG 3/8" w/10'HARNESS

5"

Auto / Auto or Manual c

C60224A-

6492 / 6493

3

AUTOMATIC

CUMMINS CRANK POSITION WIRE T-JUMPER

1.7

Auto / Auto or Manual Electri

10

6492 / 6493

PH

w/ 10' HARNESS

AUTOMATIC – R Terminal

1.5

Auto / Auto or Manual c

C60224A-

6492 / 6493

PH

R TERMINAL w/ 5' HARNESS

AUTOMATIC – R Terminal

R TERMINAL w/ 10' HARNESS

1.7

Auto / Auto or Manual Electri

J10

6492 / 6493

PH

MANUAL HARNESS – 12 & 24 VDC

5"

Manual / Auto

c

C60224A-R

6495

3

MANUAL HARNESS – 12 & 24 VDC

1.7

Manual / Auto

Electri

C60224A-

6495

PH

MANUAL HARNESS – 12 & 24 VDC

5"

Manual / Auto

c

R10

3

2.0" VALVES

AUTOMATIC

MAG 3/8" w/ 5' HARNESS

AUTOMATIC

1.7

Electri

C60224T

PH

5"

c

C60224T-10

3

AUTOMATIC

2.0

Auto / Auto or Manual Electri

C60225A-

6492 / 6493

PH

AUTOMATIC

1.7

Electri

C60225A-

6492 / 6493

PH

MAG 3/8" w/10'HARNESS

5"

Auto / Auto or Manual c

C60225A-

6492 / 6493

3

AUTOMATIC

CUMMINS CRANK POSITION WIRE T-JUMPER

2.0

Auto / Auto or Manual Electri

10

6492 / 6493

PH

w/ 10' HARNESS

AUTOMATIC – R Terminal

1.7

Auto / Auto or Manual c

C60225A-

6492 / 6493

PH

R TERMINAL w/ 5' HARNESS

AUTOMATIC – R Terminal

R TERMINAL w/ 10' HARNESS

2.0

Auto / Auto or Manual Electri

J10

6492 / 6493

PH

MANUAL HARNESS – 12 & 24 VDC

"

Manual / Auto

c

C60225A-R

6495

3

MANUAL HARNESS – 12 & 24 VDC

2.0

Manual / Auto

Electri

C60225A-

6495

PH

MANUAL HARNESS – 12 & 24 VDC

"

Manual / Auto

c

R10

3



2.0

Electri

C60225T

PH

"

c

C60225T-10

3

2.0

Electri

C60225T-

PH

"

c

15

3

MAKE/MODEL	VALVE SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL	PRODUCT CODE
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CLASS6-8 / OFF-HIGHWAY APPLICATIONS
COMMERCIAL HEAVY DUTY TRUCKS / STATIONARY EQUIPMENT

All PH3 kits are 12 VDC unless otherwise stated

2.25" VALVES

AUTOMATIC

MAG 3/8" w/ 5' HARNESS

AUTOMATIC

MAG 3/8" w/10' HARNESS

2.2

Auto / Auto or Manual Electri

C60252A

6492 / 6493

PH

5"

Auto / Auto or Manual c

C60252A-

6492 / 6493

3

AUTOMATIC

CUMMINS CRANK POSITION WIRE T-JUMPER

2.2

Auto / Auto or Manual Electri

10

6492 / 6493

PH

w/ 10' HARNESS

AUTOMATIC – R Terminal

5"

Auto / Auto or Manual c

C60252A-

6492 / 6493

3

R TERMINAL w/ 5' HARNESS

AUTOMATIC – R Terminal

R TERMINAL w/ 10' HARNESS

2.2

Auto / Auto or Manual Electri

J10

6492 / 6493

PH

MANUAL HARNESS – 12 & 24 VDC

5"

Manual / Auto

C60252A-R

6495

3

MANUAL HARNESS – 12 & 24 VDC

2.2

Manual / Auto Electri

C60252A-

6495

PH

MANUAL HARNESS – 12 & 24 VDC

5"

Manual / Auto

R10

6495

3

2.5" VALVES

AUTOMATIC

MAG 3/8" w/ 5' HARNESS

AUTOMATIC

2.2

Electri

C60252T

6492 / 6493

PH

5"

Auto / Auto or Manual c

C60252T-10

6492 / 6493

3

AUTOMATIC

2.5

Auto / Auto or Manual Electri

C60243A-

6492 / 6493

PH

2.2

Electri

C60243A-

6492 / 6493

PH

MAG 3/8" w/10' HARNESS

5"

Auto / Auto or Manual c

C60243A-

6492 / 6493

3

AUTOMATIC CUMMINS CRANK POSITION WIRE T-JUMPER

2.5

Auto / Auto or Manual Electri

10

6492 / 6493

PH

w/ 10' HARNESS

AUTOMATIC – R Terminal

2.2

Auto / Auto or Manual Electri

C60243A-

6492 / 6493

PH

R TERMINAL w/ 5' HARNESS

AUTOMATIC – R Terminal

R TERMINAL w/ 10' HARNESS

2.5

Auto / Auto or Manual Electri

J10

6492 / 6493

PH

MANUAL HARNESS – 12 & 24 VDC

"

Manual / Auto

C60243A-R

6495

3

MANUAL HARNESS – 12 & 24 VDC

2.5

Manual / Auto Electri

C60243A-

6495

PH

MANUAL HARNESS – 12 & 24 VDC

"

Manual / Auto

R10

6495

3

2.75" VALVES

AUTOMATIC

MAG 3/8" w/ 5' HARNESS

AUTOMATIC

2.5

Electri

C60243T

6492 / 6493

PH

"

Auto / Auto or Manual c

C60243T-10

6492 / 6493

3

AUTOMATIC

2.7

Auto / Auto or Manual Electri

C60244A-

6492 / 6493

PH

2.5

Electri

C60244A-

6492 / 6493

PH

MAG 3/8" w/10' HARNESS

5"

Auto / Auto or Manual c

C60244A-

6492 / 6493

3

AUTOMATIC CUMMINS CRANK POSITION WIRE T-JUMPER

2.7

Auto / Auto or Manual Electri

10

6492 / 6493

PH

w/ 10' HARNESS

AUTOMATIC – R Terminal

2.5

Auto / Auto or Manual Electri

C60244A-

6492 / 6493

PH

R TERMINAL w/ 5' HARNESS

AUTOMATIC – R Terminal

R TERMINAL w/ 10' HARNESS

2.7

Auto / Auto or Manual Electri

J10

6492 / 6493

PH

MANUAL HARNESS – 12 & 24 VDC

5"

Manual / Auto

C60244A-R

6495

3

MANUAL HARNESS – 12 & 24 VDC

2.7

Manual / Auto Electri

C60244A-

6495

PH

MANUAL HARNESS – 12 & 24 VDC

5"

Manual / Auto

R10

6495

3



PACBRAKE

2.7

Electri

C60244T

6492 / 6493

PH

5"

c

C60244T-10

6492 / 6493

3

2.7

Electri

C60244T-

6492 / 6493

PH

5"

c

15

6492 / 6493

3

MAKE/MODEL	VALVE SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL	PRODUCT CODE
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CLASS6-8 / OFF-HIGHWAY APPLICATIONS
COMMERCIAL HEAVY DUTY TRUCKS / STATIONARY EQUIPMENT

All PH3 kits are 12 VDC unless otherwise stated

3.0" VALVES

Detroit DD8 Engines

COMMERCIAL TRUCK DETROIT DD8 ENGINE MAG PLATE FOR DD8 w/ 10' HARNESS	3.0"	Auto / Auto	Electric	C60226A-10-M	6492 / 6493	PH3
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Univer sal

AUTOMATIC	3.0	Auto / Auto or	Electr	C60226A	6492 /	PH
MAG 3/4" w/ 5' HARNESS	"	Manual Auto /	ic	C60226A-10	6493	3
AUTOMATIC	3.0	Auto or Manual	Electr	C60226A-J10	6492 /	PH
MAG 3/4" w/ 10' HARNESS	"	Auto / Auto or	ic	C60226A-R	6493 / 6492 / 6493	3 PH
AUTOMATIC	3.0	Auto / Auto or Manual	Electr	C60226A-R	6492 / 6493	PH
CUMMINS CRANK POSITION WIRE T-JUMPER w/ 10' HARNESS	"	Manual Auto / Auto or Manual	Electr	C60226A-	6492 / 6493	3
AUTOMATIC - R Terminal	3.0	Manual / Auto	ic	R10	6493 / 6495	3 PH
R TERMINAL w/ 5' HARNESS	"	Manual / Auto	ic	C60226T	6495	3
AUTOMATIC - R Terminal	3.0	Manual / Auto	Electr	C60226T-	6495	PH
R TERMINAL w/ 10' HARNESS	"		ic	10		3

3.5" VALVES

MANUAL VOLVO / MACK GENERIC	3.0		Electr	C60226T-		PH
VOLVO / MACK GENERIC	"		ic	15		3
AUTOMATIC	3.5	Auto / Auto or	Electr	C60255A	6492 /	PH
MAG 3/4" w/ 5' HARNESS	3.0	Manual Auto /	c Electr	C60255A-R	6493	PH
AUTOMATIC	3.5	Auto or Manual	Electr		6492 /	PH
MAG 3/4" w/ 10' HARNESS	3.5	Auto or Manual	Electr	C60256A	6492 /	PH
MANUAL	3.5	Auto or Manual	Electr	C60256A-10	6493	3
AUTOMATIC	"	Auto or Manual	c	C60256A-J10	6492 /	PH
CUMMINS CRANK POSITION WIRE T-JUMPER UP TO & INCLUDING 2018 w/ APEX CONNECTOR±, w/ 10' HARNESS	3.5	Auto or Manual	Electr	C60256A-J10	6492 /	PH
AUTOMATIC	"	Auto	c		6493	3
CUMMINS CRANK POSITION WIRE T-JUMPER 2018+ w/ MCON1.2 CONNECTOR±,	3.5"	Auto / Auto or Manual	Electr	C60256A-2J10	6492 / 6493	PH3
w/ 10' HARNESS	3.5	Auto	c		6493	3
AUTOMATIC - R Terminal	3.5	Auto / Auto or Manual	Electr	C60256A-R	6492 / 6493	PH
AUTOMATIC - R Terminal	"	Auto / Auto or Manual	c	C60256A-	6492 / 6493	3
R TERMINAL w/ 10' HARNESS	3.5	Manual / Auto or Manual	Electr	R10	6495	PH
MANUAL	"	Manual / Auto or Manual	c	C60256T	6495	3
5' HARNESS - 12 & 24 VDC	3.5	Manual / Auto or Manual	Electr	C60256T-	6495	PH
MANUAL	"	Manual / Auto or Manual	c	10	6495	3
20' HARNESS, 12 & 24 VDC	3.5		Electr	C60256T-		PH

MANUAL

15' HARNESS - 12 & 24 VDC	"		c	15		3
MANUAL	3.5		Electr	C60256T-		PH
PACBRAKE	"		c	20		3

USA
CANADA

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FAX 604.882.2330



MAKE/MODEL	VALVE SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL	PRODUCT CODE
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CLASS 6-8 / OFF-HIGHWAY APPLICATIONS
COMMERCIAL HEAVY DUTY TRUCKS / STATIONARY EQUIPMENT

All PH3 kits are 12 VDC unless otherwise stated

4.0" VALVES

Detroit DD13 / DD15 / DD16 Engines

COMMERCIAL TRUCK DETROIT DD13 / DD15 / DD16 ENGINE	4.0"	Auto / Auto or Manual	Electric	C60223A	6492 / 6493	PH3
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MX 11 Engines

2023+ MX11 ENGINE CAN-BUS	4.0	Auto /	Electric	C60361	6492 /	PH
2023+ MX11 ENGINE CRANK POSITION SENSOR T JUMPER	"	Auto	c	C60361A-J	6493	3
	4.0	Auto /	Electric		6492 /	PH

MX 13 Engines

MX13 ENGINE CAN-BUS	4.0	Auto / Auto or Manual	Electric	C60242A	6493 / 6492	3 PH
MX13 ENGINE CRANK POSITION SENSOR T JUMPER CAN-BUS	"	Auto / Auto or Manual	c	C60242A-J	6493	3
	4.0	Auto / Auto	Electric	C60361	6492 /	PH
2023+ MX13 ENGINE CRANK POSITION SENSOR T JUMPER	"	Auto / Auto	c	C60361A-J	6493	3
2023+ MX13 ENGINE CRANK POSITION SENSOR T JUMPER	4.0		Electric		6492 /	PH

Universal

AUTOMATIC MAG 3/4" w/ 5' HARNESS	4.0	Auto / Auto or	Electric	C60228A	6492 /	PH
AUTOMATIC MAG 3/4" w/ 10' HARNESS	4.0	Manual Auto /	Electric	C60228A-10	6492 / 6493	PH 3
AUTOMATIC CUMMINS CRANK POSITION WIRE T-JUMPER (UP TO & INCLUDING 2018) w/ APEX CONNECTOR±, w/ 10' HARNESS	4.0	Auto or Manual	Electric	C60228A-J10	6492 /	PH
AUTOMATIC CUMMINS CRANK POSITION WIRE T-JUMPER 2018 + w/ MCON 1.2 CONNECTOR±, w/ 10' HARNESS	4.0	Auto / Auto or Manual	Electric	C60228A-2J10	6492 / 6493	PH 3
AUTOMATIC - R Terminal	4.0	Auto / Auto or Manual	Electric	C60228A-R	6492 / 6493	PH
AUTOMATIC - R Terminal	"	Auto / Auto or Manual	c	C60228A-	6492 / 6493	3
R TERMINAL w/ 10' HARNESS	4.0	Manual / Auto or Manual	Electric	R10	6495	PH
MANUAL	"	Manual / Auto or Manual	c	C60228T	6495	3
5' HARNESS - 12 & 24 VDC	4.0	Manual / Auto or Manual	Electric	C60228T-	6495	PH
MANUAL	"	Manual / Auto or Manual	c	10	6495	3
20' HARNESS - 12 & 24 VDC	4.0		Electric	C60228T-		PH
MANUAL	"		c	15		3
MANUAL	4.0		Electric	C60228T-		PH
	"		c	20		3
	4.0		Electric			PH
	"		c			3



PACBRAKE

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MAKE/MODEL	VALVE SIZE	CONTROL / RESET	ACTUATION	KIT #	INSTALL MANUAL	PRODUCT CODE
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OFF-HIGHWAY APPLICATIONS

STATIONARY EQUIPMENT

All PH3 kits are 12 VDC unless otherwise stated

COMPRESSORS

DOOSAN1600 - AUTOMATIC MAG 5/8" W/10'HARNESS	4.0"	Auto / Auto or Manual	Electric	C50315A	6325 / 6452	PH3
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LIGHT TOWERS

PH3 - LTW20 / 20KW / BV-4LEZENGINE	2.0"	Auto / Auto or Manual	Electric	C50222A	6325 / 6452	PH3
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WELDERS

PH3 VANTAGE 400	1.5"	Auto / Auto or	Electr	C60321	6492 /	PH
WELDER PH3	1.75"	Manual Auto /	ic	A	6493	3
VANTAGE 400		Auto or Manual	Electr	C60224	6492 /	PH
ISUZU 3CJ ENGINE			ic	A	6493	3

ISUZU 3CJ ENGINE

ISUZU 3CJ ENGINE	1.75"	Auto / Auto or Manual	Electric	C50246A	6325 / 6452	PH3
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PRODUCT	APPLICATION	PART #	INSTALL MANUAL	PRODUCT CODE
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ACCESSORIES

Jumper Harness

AUXILIARY INPUT JUMPER _{12 VDC}	Univers	C50159	L63	PH
HARNESS AUXILIARY INPUT _{24 VDC}	al	C50159-24	96	3
JUMPER HARNESS	Univers		L63	PH
	al		96	3

Pacbrake PowerHalt 3 Air Intake Emergency Shut-Off Valve is an electronically controlled emergency engine shut down system which forces engine shut down by blocking an engine's air intake path. It is available in an automatic engine speed sensing model where shutdown occurs if engine speed exceeds a trip speed (or by manual override). Alternatively, a manual activation only configuration is available where an operator or external input will activate emergency engine shut-down. The valves electronically return to open position after emergency engine shutdown, all while providing feedback to the operator that the valve is held closed via illuminated toggle switch or panel indicator light.

Product Highlights

- 12 and 24 VDC system compatible
- Reliable and safe emergency shut down for diesel engines
- Operator friendly fully automatic operation with manual override
- Enclosed drive system is debris and corrosion resistant
- Aluminum flap and housing for durable seal
- High temperature design for challenging thermal applications
- In compliance with CSA B621-14 & B622-14
- Corrosion tested to ASTM B117 – 96 hours Salt Fog
- Rated for $18.6G_{RMS}$ vibration ($7.7G_{RMS}$ for 5" bore)
- Robust design – designed to pass 100k+ fatigue cycles
- IP 66 rated valve motor
- Low power consumption with smart control
- Supports multiple trip input sources
- Auxiliary trip inputs available (PowerGuard Automatic and Manual)
- Compatible with hall effect and VR sensors (PowerGuard Automatic)
- Secondary pre-set speed for Power Take Off (PTO) applications (PowerGuard Automatic)



Applications

- | | | | |
|---------------------------|----------------|-------------------------|-------------------|
| • Bulk Haulers | • Tankers | • Power Generators | • Drilling Rigs |
| • Grain Processing Plants | • Cranes | • Forklifts | • Work Boats |
| • Refinery Processing | • Vehicles | • Underground Equipment | • Barges Welders |
| • Fueling Vehicles | • Tow Vehicles | • Support Vehicles | • Lighting Trucks |
| • Pump Trucks | • Fire Trucks | • Vacuum Trucks | |
| • Lighting Units | • Frac Trucks | | |

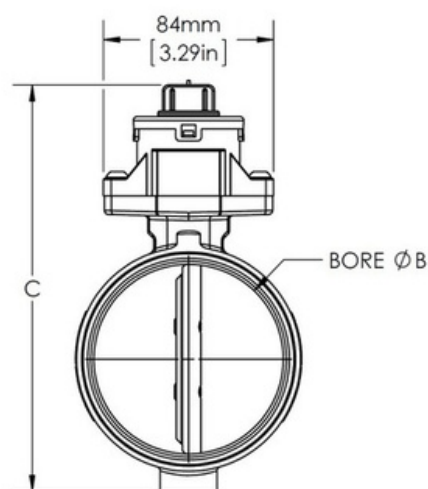
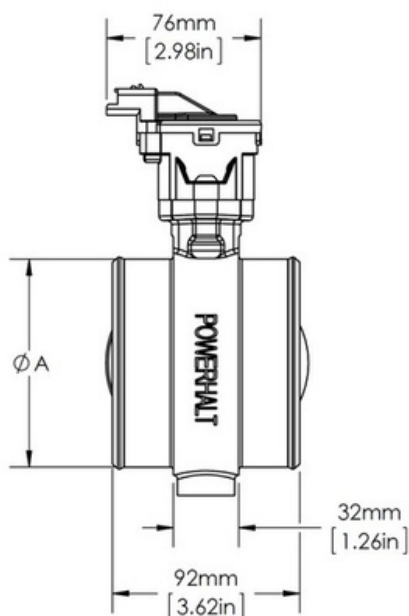
All information contained in this document is for reference only, subject to change without notice.

Valve

Maximum Intake Boost Air Pressure	3.45 bar (gauge) [50 psig]
Continuous Intake Air Temperature	-55°C to +175°C [-67°F to +347°F]
Ambient Temperature Range	-40°C to +120°C [-40°F to +248°F]

Resting Position	Valve open
Activated Position	Valve closed

Standard Mounting Flanges	Hose to Hose
Pipe Sizes Supported	Ø38 mm to Ø114 mm [Ø1.5 in to Ø4.5 in]

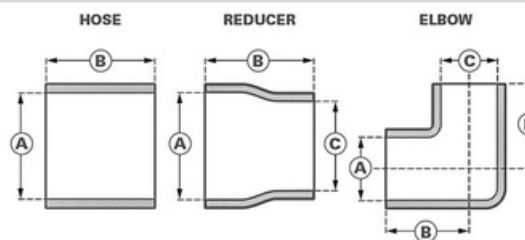


Part Number	Dimension			Weight
	'A' - Hose Bore Diameter	'B' - Valve Bore Diameter	'C' - Height	
C50087	44.5 mm [1.75 in]	35.5 mm [1.40 in]	149 mm [5.87 in]	0.75 kg [1.7 lbs]
C50088	51 mm [2.0 in]	42 mm [1.65 in]	149 mm [5.87 in]	0.73 kg [1.6 lbs]
C50089	57 mm [2.25 in]	48 mm [1.89 in]	149 mm [5.87 in]	0.71 kg [1.6 lbs]
C50097	64 mm [2.5 in]	55 mm [2.17 in]	170 mm [6.69 in]	0.90 kg [2.0 lbs]
C50096	70 mm [2.75 in]	61 mm [2.40 in]	170 mm [6.69 in]	0.87 kg [1.9 lbs]
C50090	76 mm [3.0 in]	67 mm [2.64 in]	170 mm [6.69 in]	0.84 kg [1.8 lbs]
C50098	89 mm [3.5 in]	80 mm [3.15 in]	200 mm [7.87 in]	1.1 kg [2.4 lbs]
C50086	102 mm [4.0 in]	93 mm [3.66 in]	200 mm [7.87 in]	1.0 kg [2.2 lbs]

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PowerHalt Accessories

Hoses



Description
Temperature Rating
Pressure Rating

Silicone Class "A", 4 Ply Polyester Reinforced
 -55°C to +175°C [-67°F to +347°F]
 Conforms to SAE J20 (20R1 HD SW)

Part Number	Hose Type	Dimensions		
		'A' – Diameter	'B' – Hose Length	'C' – Diameter
C3912	Straight	44.5mm [1.75 in]	76.2 mm [3.0 in]	N/A
C3913	Straight	50.8 mm [2.0 in]	76.2 mm [3.0 in]	N/A
C3914	Straight	57.2 mm [2.25 in]	76.2 mm [3.0 in]	N/A
C3997	Straight	63.5 mm [2.5 in]	76.2 mm [3.0 in]	N/A
C3784	Straight	69.9 mm [2.75 in]	76.2 mm [3.0 in]	N/A
C3828	Straight	76.2 mm [3.0 in]	76.2 mm [3.0 in]	N/A
C3789	Straight	88.9 mm [3.0 in]	76.2 mm [3.0 in]	N/A
C3859	Straight	88.9 mm [3.5 in]	101.6 mm [4.0 in]	N/A
C3792	Straight	101.6 mm [4.0 in]	76.2 mm [3.0 in]	N/A
C3797	Straight	127 mm [5.0 in]	76.2 mm [3.0 in]	N/A
C5009	Straight	139.7 mm [5.5 in]	76.2 mm [3.0 in]	N/A
C4070	Reducer	44.5 mm [1.75 in]	76.2 mm [3.0 in]	38.1 mm [1.5 in]
C3835	Reducer	69.9 mm [2.75 in]	76.2 mm [3.0 in]	44.5 mm [1.75 in]
C3783	Reducer	69.9 mm [2.75 in]	76.2 mm [3.0 in]	63.5 mm [2.5 in]
C3786	Reducer	76.2 mm [3.0 in]	76.2 mm [3.0 in]	69.9 mm [2.75 in]
C3866	Reducer	88.9 mm [3.5 in]	76.2 mm [3.0 in]	63.5 mm [2.5 in]
C3831	Reducer	88.9 mm [3.5 in]	76.2 mm [3.0 in]	69.9 mm [2.75 in]
C3788	Reducer	88.9 mm [3.5 in]	76.2 mm [3.0 in]	76.2 mm [3.0 in]
C3860	Reducer	88.9 mm [3.5 in]	76.2 mm [3.0 in]	82.6 mm [3.25 in]
C3861	Reducer	95.3 mm [3.75 in]	76.2 mm [3.0 in]	88.9 mm [3.5 in]
C3791	Reducer	101.6 mm [4.0 in]	76.2 mm [3.0 in]	88.9 mm [3.5 in]
C3862	Reducer	101.6 mm [4.0 in]	76.2 mm [3.0 in]	95.3 mm [3.75 in]
C3863	Reducer	108 mm [4.25 in]	76.2 mm [3.0 in]	101.6 mm [4.0 in]
C3794	Reducer	114.3 mm [4.5 in]	76.2 mm [3.0 in]	101.6 mm [4.0 in]
C3796	Reducer	127 mm [5.0 in]	76.2 mm [3.0 in]	114.3 mm [4.5 in]
C3864	Reducer	127 mm [5.0 in]	76.2 mm [3.0 in]	120.7 mm [4.75 in]
C3865	Reducer	133.4 mm [5.25 in]	76.2 mm [3.0 in]	127 mm [5.0 in]
C3799	Reducer	139.7 mm [5.5 in]	76.2 mm [3.0 in]	127 mm [5.0 in]
C3832	120° Elbow	69.9 mm [2.75 in]	127 mm [5.0 in]	69.9 mm [2.75 in]
C3857	90° Elbow	76.2 mm [3.0 in]	127 mm [5.0 in]	69.9 mm [2.75 in]
C3834	90° Elbow	88.9 mm [3.5 in]	127 mm [5.0 in]	69.9 mm [2.75 in]
C3829	90° Elbow	88.9 mm [3.5 in]	127 mm [5.0 in]	76.2 mm [3.0 in]

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Clamps



Description	Stainless Steel, Constant Tension Gear Clamp, Heavy Duty
Standard	SAE J1508 Type SLHD
Size Range	45 mm to 80 mm [1.75 in to 3.13 in]
Installation Torque	8.5± 0.6 Nm [75 ± 5 in-lbf]

Part Number	SAE Size	Minimum Diameter	Maximum Diameter	Band Width
C3975	262	44.5 mm [1.75 in]	66.7 mm [2.625 in]	15.9 mm [0.625 in]
C3976	312	57.2 mm [2.25 in]	79.4 mm [3.125 in]	15.9 mm [0.625 in]



Description	Stainless Steel, Spring Loaded T-Bolt Clamp, Heavy Duty
Standard	SAE J1508 Type SLTB
Size Range	70 mm to 152 mm [2.75 in to 6 in]
Installation Torque	8.5± 0.6 Nm [75 ± 5 in-lbf]

Part Number	SAE Size	Minimum Diameter	Maximum Diameter	Band Width
C3871	60	69.9 mm [2.75 in]	77.8 mm [3.063 in]	19.1 mm [0.75 in]
C3872	68	76.2 mm [3.0 in]	84.1 mm [3.313 in]	19.1 mm [0.75 in]
C3873	76	82.6 mm [3.25 in]	90.5 mm [3.563 in]	19.1 mm [0.75 in]
C3874	84	88.9 mm [3.5 in]	96.8 mm [3.813 in]	19.1 mm [0.75 in]
C3875	92	95.3 mm [3.75 in]	103.2 mm [4.063 in]	19.1 mm [0.75 in]
C3977	96	98.4 mm [3.875 in]	106.4 mm [4.188 in]	19.1 mm [0.75 in]
C3876	102	103.2 mm [4.063 in]	111.1 mm [4.375 in]	19.1 mm [0.75 in]
C3877	104	104.8 mm [4.125 in]	112.7 mm [4.438 in]	19.1 mm [0.75 in]
C3878	116	114.3 mm [4.5 in]	122.2 mm [4.813 in]	19.1 mm [0.75 in]
C3879	124	120.7 mm [4.75 in]	128.6 mm [5.063 in]	19.1 mm [0.75 in]
C3880	136	130.2 mm [5.125 in]	138.1 mm [5.438 in]	19.1 mm [0.75 in]
C3881	140	133.4 mm [5.25 in]	141.3 mm [5.563 in]	19.1 mm [0.75 in]
C3882	148	139.7 mm [5.5 in]	147.6 mm [5.813 in]	19.1 mm [0.75 in]
C3883	154	144.5 mm [5.688 in]	152.4 mm [6.0 in]	19.1 mm [0.75 in]

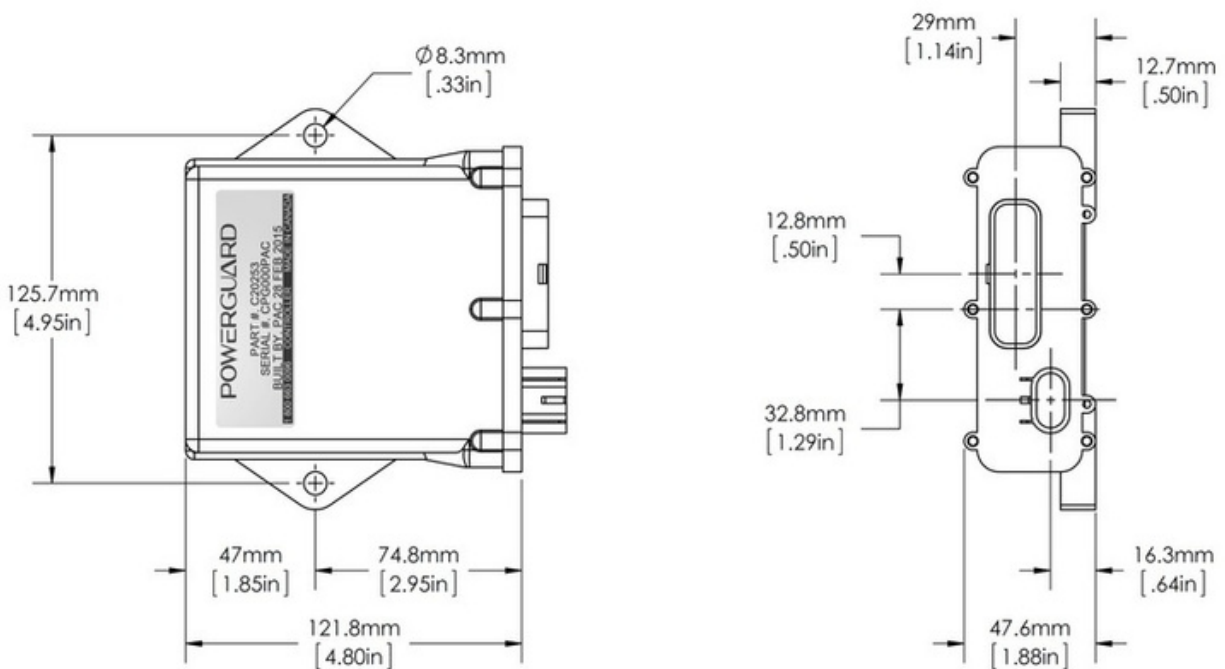
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PowerGuard Automatic Control

PowerGuard Automatic Control monitors engine speed through a gear tooth sensor mounted to the transmission bell housing using an existing auxiliary port or by drilling and tapping a new port. The controller has a programmable trip speed – when the programmed trip speed is exceeded, emergency engine shutdown will occur automatically. Emergency shutdown can be activated at any time through a manual override button. All control and programming is completed using a membrane switch mounted in a vehicle's cab or on a control panel. An auxiliary input harness is available to expand systems to utilize external trip input signals or switches.

- Automatically activates after programmable engine trip speed is exceeded
- Manual override, programming, and valve position feedback from cab/panel mounted membrane switch
- Valve automatically resets 30 seconds after close by default. Behaviour can be altered to remain closed until manually reset by operator and achieve compliance with CSA B621-14 & B622-14.
- Secondary trip speed for PTO applications. Providing ground to the PTO input allows users to engage a second emergency shut-down speed for use while powering auxiliary equipment. To prevent accidental shut down while enabling and disabling PTO, a 5 second grace period is applied when switching to a lower trip speed, to allow for engine speed to reduce. When switching to a higher trip speed, the change is applied immediately.

Controller



Part Number	C20253
Controller Housing Material Compliance	SAE J1455 (-40°C to 85°C [-40°F to +185°F])
Controller Voltage	12/24 VDC (9 to 30 VDC)
Control Method	PID, PWM, H-Bridge
Power Consumption (Idle)	35 mA max continuous, nominal
Power Consumption (Valve Actuated)	6.5 A continuous, nominal

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Gear Tooth Sensor (Magnetic Pickup)

Temperature Range

-40°C to +105°C [-40°F to +221°F]

Signal Output

0 to 5 VDC TTL

Connector

Weather-Pack, Male, 3 Pin



Sizes Available:

Part Number	Thread Size	Available Sensor Lengths	Installation Torque
C50032, C50095	3/8 - 24 UNF	51 mm, 76 mm [2 in, 3 in]	5.1 ± 0.3 Nm [45 ± 3 in-lbf]
C50033, C50279	5/8 - 18 UNF	51 mm, 64 mm [2 in, 2.5 in]	25.8 ± 1.4 Nm [19 ± 1 ft-lbf]
C50034	3/4 - 16 UNF	64 mm [2.5 in]	81.3 ± 2.7 Nm [60 ± 2 ft-lbf]

W or R-Terminal

The PowerHalt PH3 R or W-Terminal kit is an addition to the PH3 system that utilizes a Variable Reluctance (VR) sensor to read engine speed to determine proper and safe shut down event. Alternative to a VR sensor is to measure on the R or W-Terminal on an automotive engine's alternator stator tap. The output is used as a tachometer signal with AC voltage waveform similar to that of a VR sensor. The benefit of using the alternator output reduces the need for an external sensor, as the installation process is greatly simplified.



PartNumber

C20592

Temperature Range

-40°C to +105°C [-40°F to +221°F]

Environmental Resistance

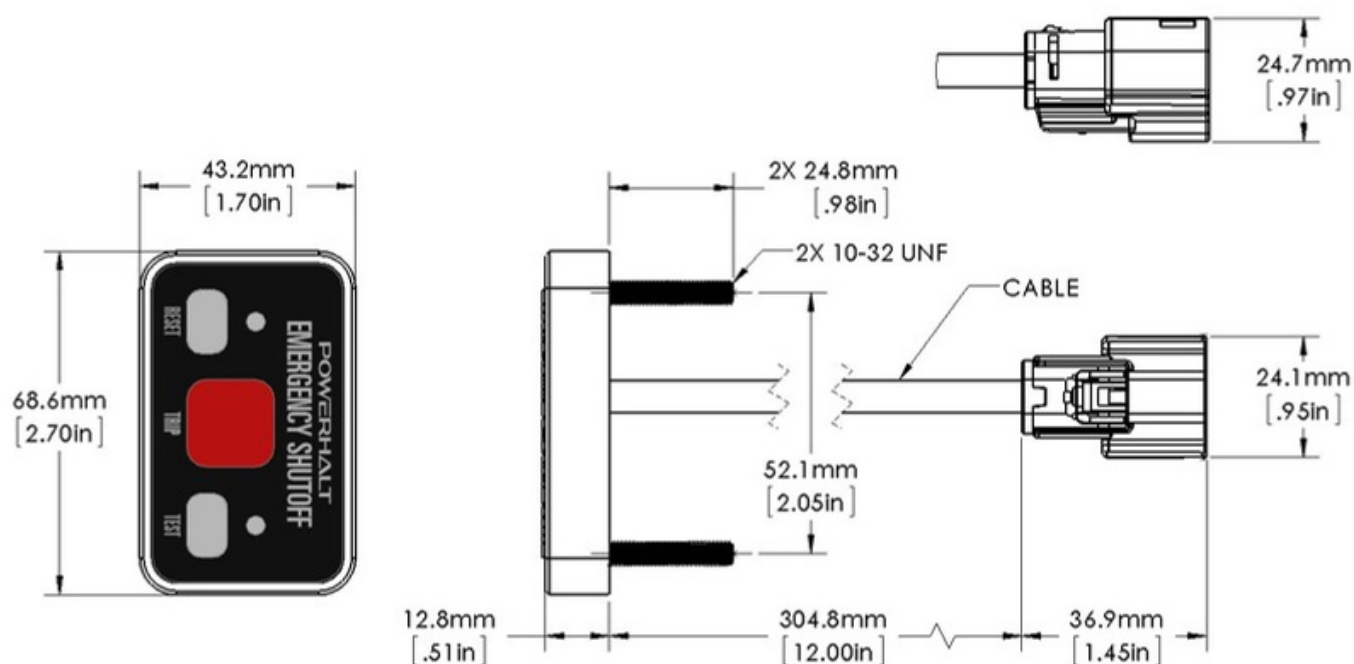
Fuel, oil, and solvent compatible

Voltage Rating

60V

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Membrane Switch



Part Number	C20541
Electrical Connector Hole Drill Size	28.5 mm [1.125 in]
Mounting Hole Drill Size	6.4 mm [.25 in]
Temperature Rating	-25°C to +80°C [-13°F to +176°F]
Installation Torque	2.25 ± 0.5 Nm [20 ± 5 in-lbf]

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Auxiliary Trip Input Harness

- Expands the standard PowerGuard Automatic wiring harness to allow for an external trip signal (emergency shut down will be activated when 12 VDC or 24 VDC voltage is supplied)
- Integrates in-line with membrane switch and wiring harness connection

Temperature Rating (Continuous)

-40°C to +105°C [-40°F to +221°F]

Switching Response Time

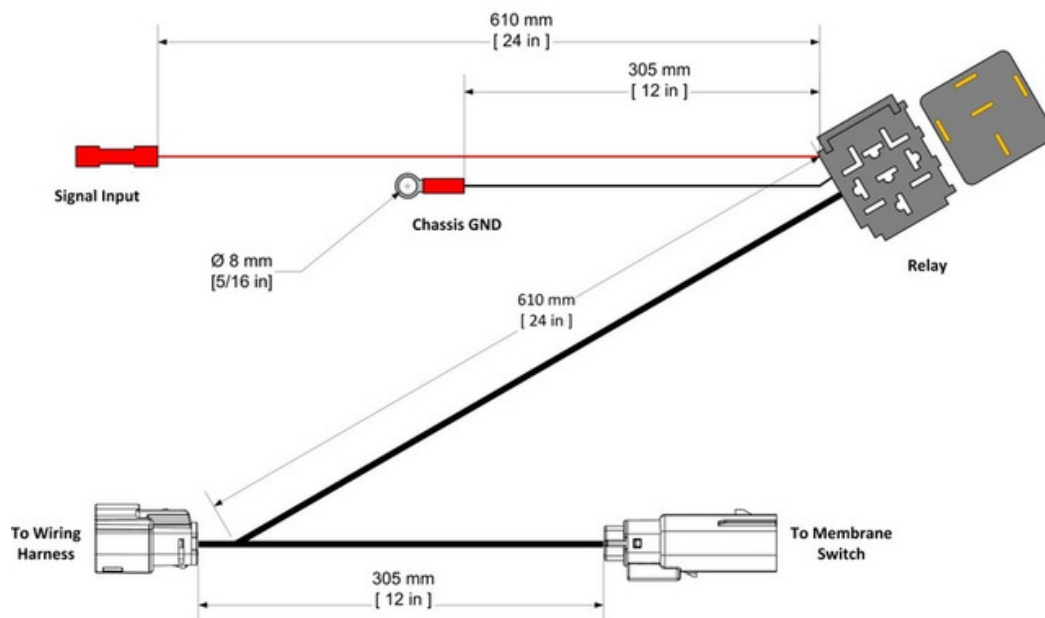
50 ms

Environmental Resistance

Fuel, oil, and solvent compatible

Wiring

SAE J1128, Tinned Copper Conductor

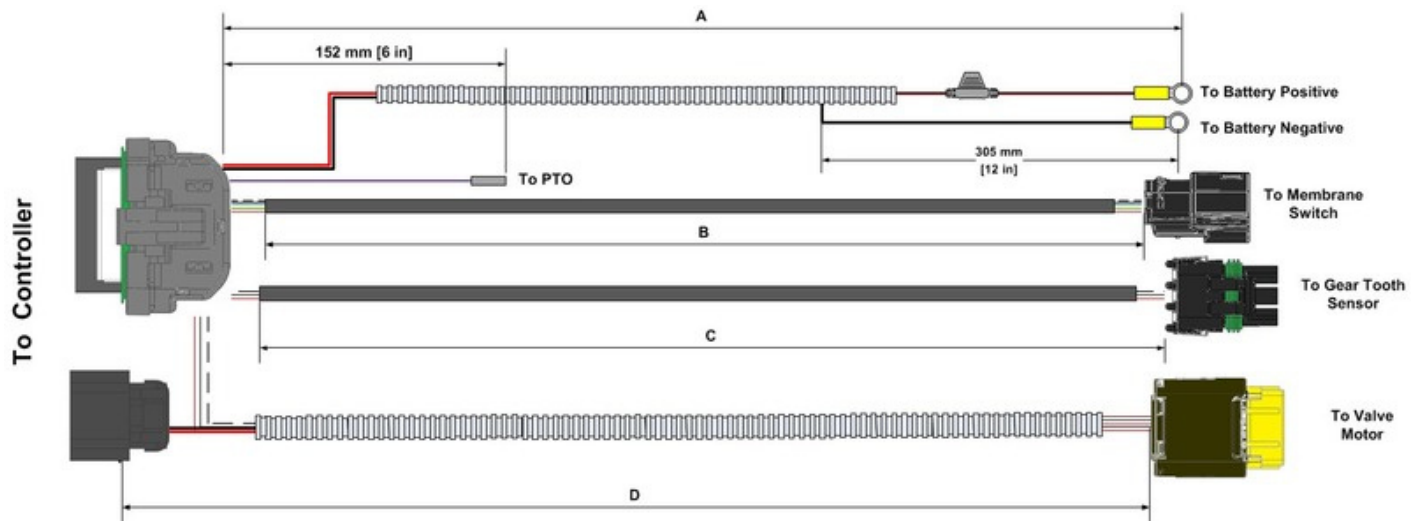


Part Number	C50159(12V)	C50159-24 (24V)
Signal Voltage, Nominal	12VDC	24 VDC
Current Source/Sink Requirement	300mA	480 mA

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Wiring Harness

Temperature Rating (Continuous)	-40°C to +105°C [-40°F to +221°F]
Sealed Connectors	Yes
Flammability Rating	FT2
RoHS Compliant	Yes
Environmental Resistance	Fuel, oil, and solvent compatible
Wiring	SAE J1128, Tinned Copper Conductor



Part Number	Dimension				Engine RPM Speed Sensor	Speed Sensor Connector
	A	B	C	D		
C20544	1245 mm [49 in]	1220 mm [48 in]	1370 mm [57 in]	1550 mm [61 in]	Hall Effect	Delphi (3 Pins)
C20535	3251 mm [128 in]	2745 mm [108 in]	3353 mm [132 in]	3175 mm [125 in]		
C20594	1245 mm [49 in]	1220 mm [48 in]	1370 mm [57 in]	1550 mm [61 in]	VR	Delphi (2 Pins)
C20534	3251 mm [128 in]	2745 mm [108 in]	3353 mm [132 in]	3175 mm [125 in]		
C20543	1245 mm [49 in]	1220 mm [48 in]	1370 mm [57 in]	1550 mm [61 in]	VR, T-Connection	Deutsch (2 Pins)
C20567	3251 mm [128 in]	2745 mm [108 in]	3353 mm [132 in]	3175 mm [125 in]		
C20538	3050 mm [120 in]	1780 mm [70 in]	1270 mm [50 in]	2415 mm [95 in]	VR	Wire Only
C20551	1245 mm [49 in]	1220 mm [48 in]	N/A	2160 mm [85 in]	OEM Signal Input	N/A
					None	

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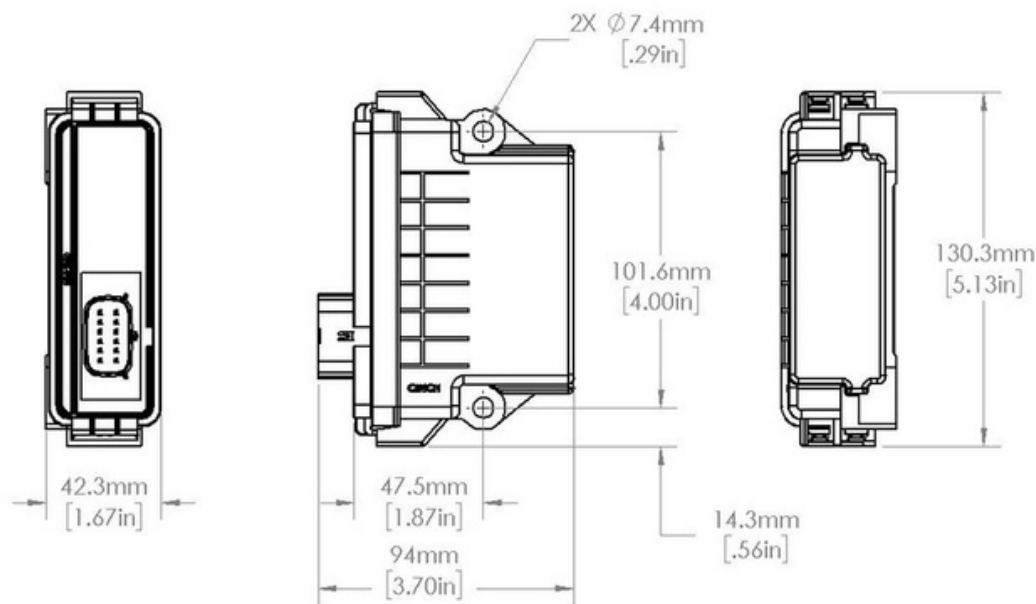
PowerGuard Manual Control

The PH3 PowerGuard Manual Control system is designed to activate a PH3 Air Intake Shut-Off Valve when an operator manually activates the emergency trip switch. The valve will remain closed for minimum 15 seconds after the trip switch is released; then the valve automatically resets itself. A supplied indicator light will illuminate when the valve is held closed to indicate that the engine cannot yet be started.

Controller (Second Generation)

Feature Overview

- Plug-n-Play wiring harnesses for easy install
- Compatible with both 12 VDC and 24 VDC systems
- Manual Trip Input accepts input range from 8 VDC to 32 VDC
- Fused switch power line to protect against faults
- Auxiliary output to connect external indicator light (included in kit)
- Valve remains closed for as long as switch held, up to a maximum 60 seconds



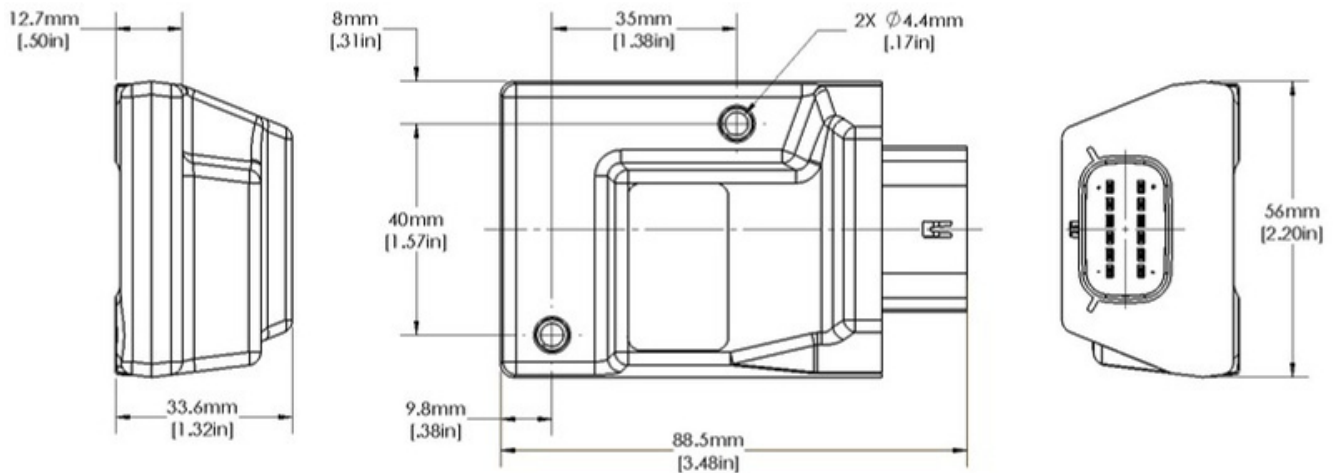
Part Number	C20644
Controller Voltage	12/24 VDC nominal (9 to 32VDC)
Seal Rating	IP67 / IP69K
Valve Actuation Duration	15 seconds min, 60 seconds max
Current Consumption (Idle/Active)	11 mA / 6.5A Nominal
Lamp output (AUX)	V-batt (12V / 24V) 130mA
Control Method	PWM, Open Loop
Installation Torque	3.39 $\pm$ 0.56 Nm [30 $\pm$ 5 in-lb]
Rated Service Temperature	-40°C to +85°C [-40°F to +185°F]

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Controller (First Generation)

Feature Overview

- Designed specifically for 12V Systems
- Compact IP67 rated controller design (potted)
- Lamp output to connect external Indicator Light (included in kit)
- Selectable 15 seconds or 30 seconds (default) valve activation duration



Part Number	C20576
Controller Voltage	12VDC, nominal (10.8VDC to 14VDC)
Seal Rating	IP67
Valve Actuation Duration	15 seconds or 30 seconds (default)
Current Consumption (Idle/Active)	10 mA/4.9 A, nominal
Installation Torque	3.39 ± 0.56 Nm [30 ± 5 in-lb]
Rated Service Temperature	-40°C to +85°C [-40°F to +185°F]

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Panel Indicator Light

Temperature Rating

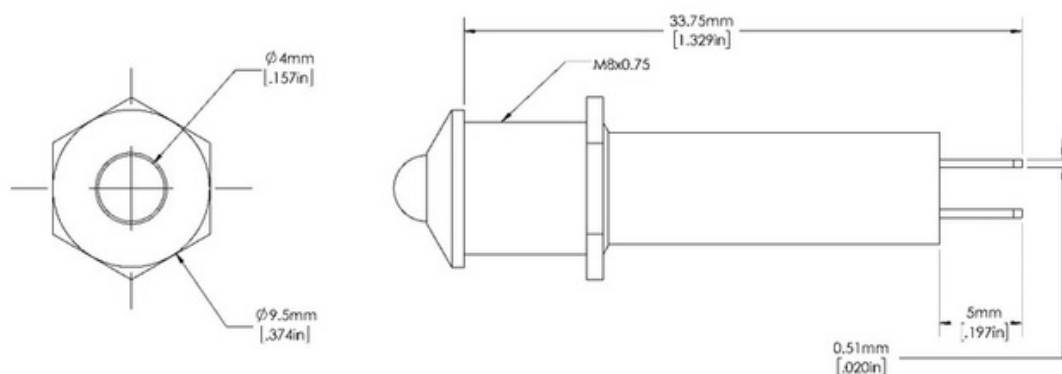
-40°C to +85°C [-40°F to +185°F]

Supply Voltage

12VDC, nominal

Connection

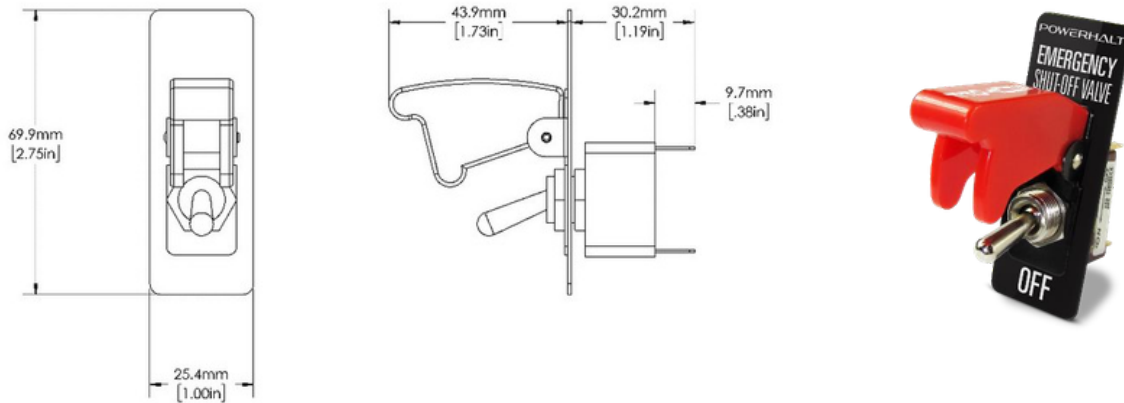
Quick Connect Terminals



Part Number	Voltage	Thru-Hole Drill Size	Connection	Max Mounting Panel Thickness
C11313	12V	8 mm [0.315 in]	2.79 mm x 0.5 mm [0.11 in x 0.02 in] quick connect terminals	6.75 mm [0.266 in]
C11313-24	24V			

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Toggle Switch, Toggle Guard, Label

**C50274****Temperature Range**

-25°C to +80°C [-13°F to +176°F]

Signal Voltage

12/24 VDC, nominal

Illuminated Toggle Switch (Optional)

**C50276****Temperature Range**

-40°C to +85°C [-40°F to +185°F]

Signal Voltage

12/24VDC, nominal

Illuminated Switch Lamp Voltage

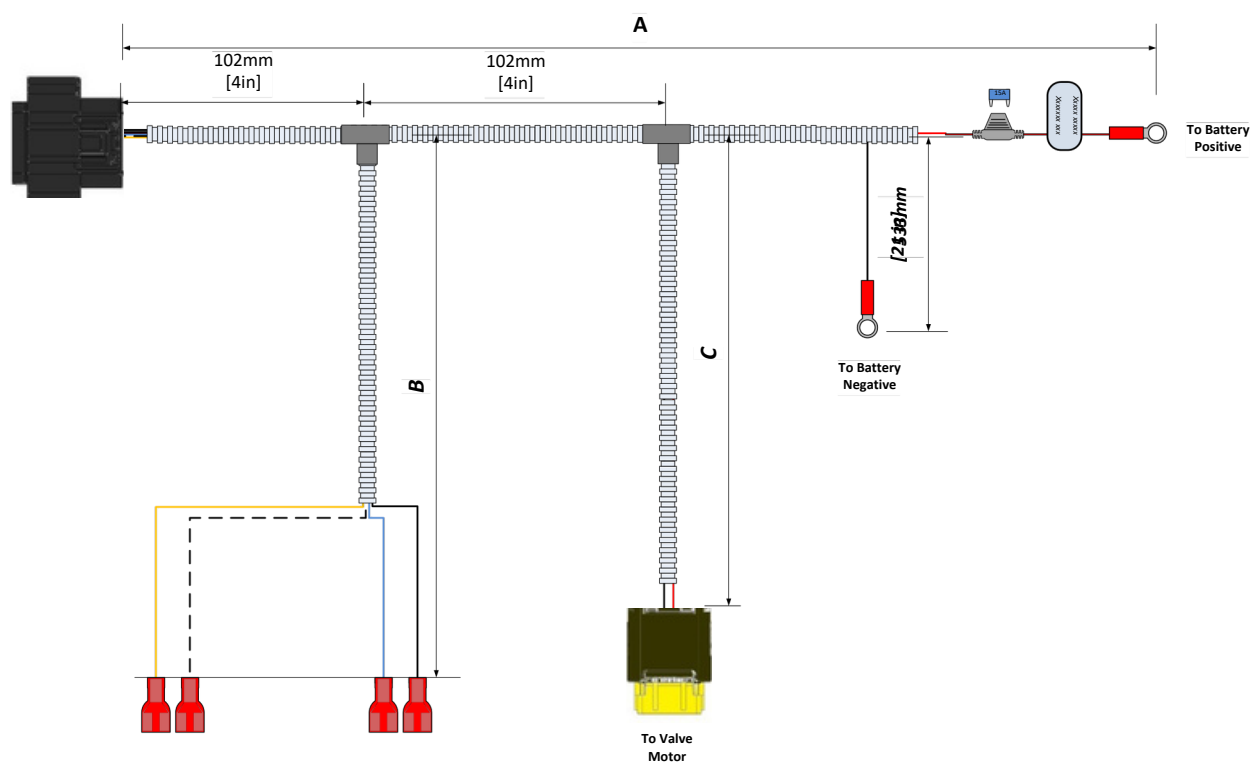
12 VDC

Part Number	Thru-Hole Drill Size	Max Mounting Panel Thickness	Current Rating		Note
C50274	12.7 mm [0.5 in]	6.75 mm [0.266 in]	6.25 A @ 12 VDC	3.13 A @ 24 VDC	Regular Switch Hardware Subgroup
C50276	12.7 mm [0.5 in]	4.16 mm [0.164 in]	10 A @ max. 30VDC		Illuminated Switch Hardware Subgroup

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Wiring Harness (Second Generation)

Temperature Rating (Continuous)	-40°C to +105°C [-40°F to +221°F]
Sealed Connectors	Yes
Flammability Rating	FT2
RoHS Compliant	Yes
Environmental Resistance	Fuel, oil, and solvent compatible
Wiring	SAE J1128, Tinned Copper Conductor

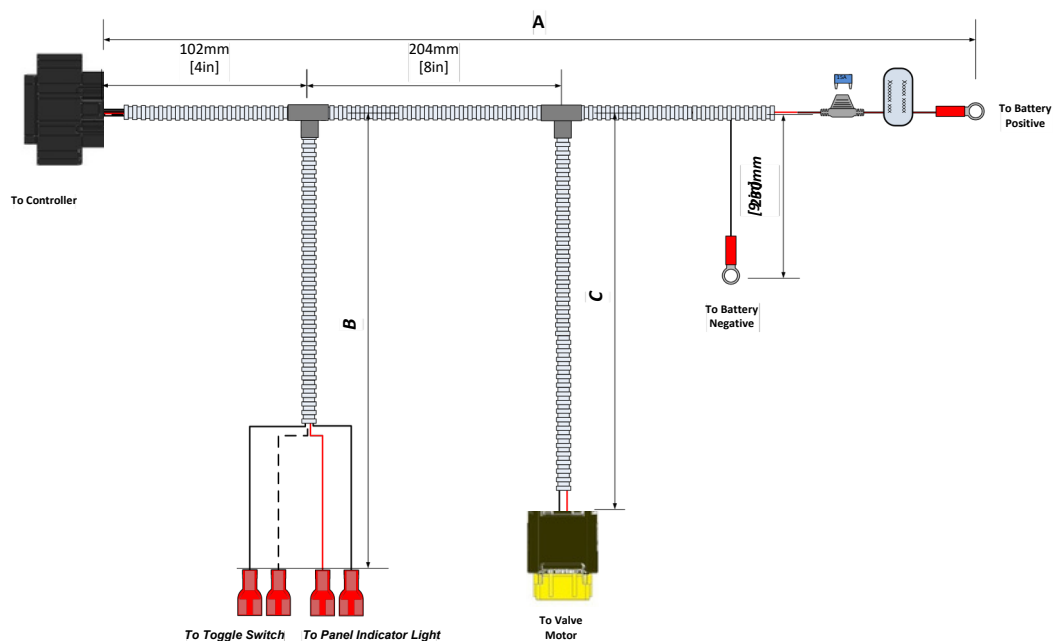


Part Number	Dimension		
	A	B	C
C20674	1525 mm [60 in]	1422 mm [56 in]	1475 mm [52 in]
C20675	3050 mm [120 in]	2946 mm [116 in]	2845 mm [112 in]
C20676	4572 mm [180 in]	4470mm [176 in]	4369mm [172 in]

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Wiring Harness (First Generation)

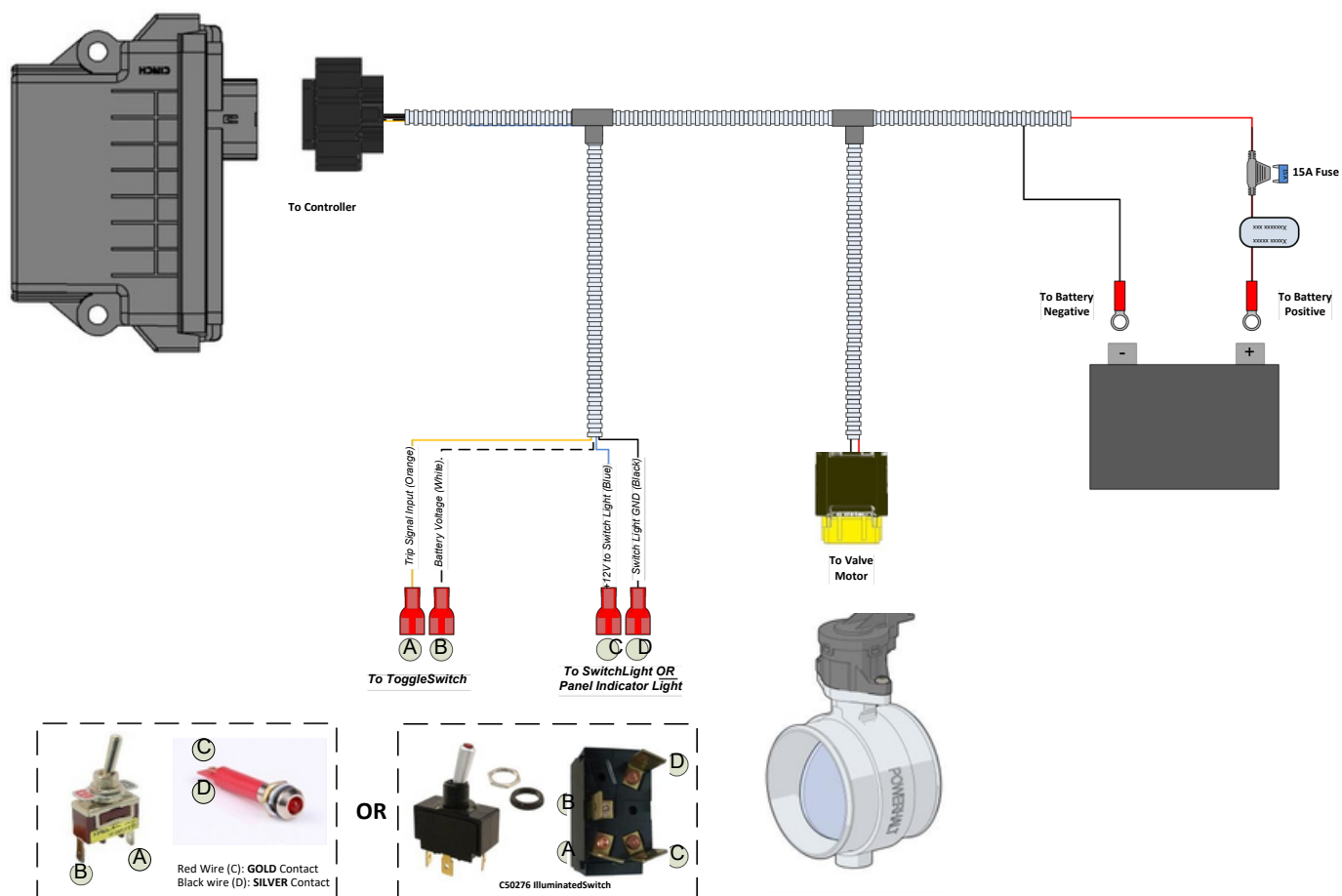
Temperature Rating (Continuous)	-40°C to +105°C [-40°F to +221°F]
Sealed Connectors	Yes
Flammability Rating	FT2
RoHS Compliant	Yes
Environmental Resistance	Fuel, oil, and solvent compatible
Wiring	SAE J1128, Tinned Copper Conductor



Part Number	Dimension		
	A	B	C
C20674	3050 mm [120 in]	2920 mm [115 in]	2720 mm [107 in]
C20675	1525 mm [60 in]	1475 mm [58 in]	1475 mm [58 in]

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Wiring Diagram (Typical Setup)



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Pacbrake PowerHalt 3 Mk II Air Intake Emergency Shut-Off Valve is an electronically controlled emergency engine shut down system which forces engine shut down by blocking an engine's air intake path. It is available in a manual activation only configuration where an operator or external input is required to activate emergency engine shut down. An automatic engine speed sensing model is also available which adds the ability to automatically force engine shut down if engine speed exceeds a user defined trip speed. The valve is electronically returned to open position after emergency engine shutdown, all while providing feedback to the operator that the valve is held closed via illuminated toggle switch or panel indicator light.



Product Highlights

- 12 and 24 VDC system compatible
- Reliable and safe emergency shut down for diesel engines
- Operator friendly fully automatic operation with manual override
- Enclosed drive system is debris and corrosion resistant
- IP67 rated seal against water ingress
- Aluminum flap and housing for durable seal
- High temperature design for challenging thermal applications
- Corrosion tested to ASTM B117 – 96 hours Salt Fog
- Valve rated for 18.6 G_{RMS} vibration
- Robust design – designed to pass one million activations
- Low power consumption with smart control
- Supports auxiliary trip inputs
- Provides auxiliary trip indication output signal
- Compatible with Hall Effect and VR sensors (PowerGuard Automatic)
- Automatically detects CAN baud rate: 250, 500, and 1000 kbps supported
- Compatible with OBDII per ISO 15765-4 and J1939 (PowerGuard Automatic)
- Compatible with 120-240V 50/60Hz AC Generators (PowerGuard Automatic)
- Programmable Secondary Trip Speed (PowerGuard Automatic)
- Configurable Automatic or Manual Reset (PowerGuard Automatic)

Applications

- | | | | |
|---------------------------|---------------------|-------------------------|-------------------|
| • Bulk Haulers | • Tankers | • Power Generators | • Drilling Rigs |
| • Grain Processing Plants | • Cranes | • Forklifts | • Work Boats |
| • Refinery Processing | • Light Duty Trucks | • Underground Equipment | • Barges Welders |
| • Fueling Vehicles | • Tow Vehicles | • Support Vehicles | • Lighting Trucks |
| • Pump Trucks | • Fire Trucks | • Vacuum Trucks | |
| • Lighting Units | • Frac Trucks | • WellServiceTrucks | |

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PowerHalt Valves

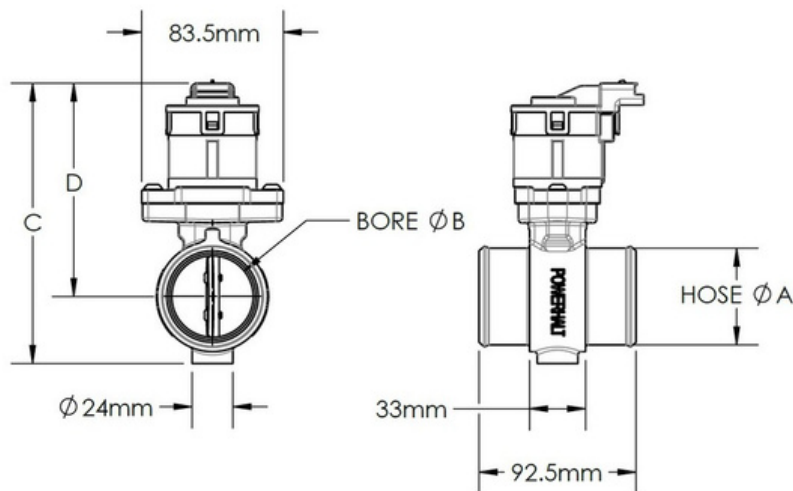
Bore: 38mm to 76.2mm [1.5" to 3.0"]

Maximum Intake Boost Air Pressure	3.45 bar (gauge) [50 psig]
Continuous Intake Air Temperature	-55°C to +175°C [-67°F to +347°F]
Ambient Temperature Range	-40°C to +120°C [-40°F to +248°F]
Ingress Protection	IP66
Vibration	18.6 G _{rms}

Resting Position	Valve open
Activated Position	Valve closed

Motor Coil Supply Voltage	13.5V nominal
Motor Coil Resistance	2.4Ω @ 20°C

Standard Mounting Flanges	Hose to Hose
Pipe Sizes Supported	Ø38 mm to Ø89 mm [Ø1.5 in to Ø3.5 in]



Part Number	Dimension				Weight
	'A' - Hose Bore Diameter	'B' - Valve Bore Diameter	'C' - Height	'D' - Height	
C50347	38 mm [1.5 in]	29 mm [1.1 in]	156 mm [6.15 in]	125 mm [4.9 in]	0.82 kg [1.8 lbs]
C50330	44.5 mm [1.75 in]	35.5 mm [1.4 in]	165 mm [6.5 in]	126 mm [5.0 in]	0.95 kg [2.1 lbs]
C50331	51 mm [2.0 in]	42 mm [1.65 in]	165 mm [6.5 in]	126 mm [5.0 in]	0.93 kg [2.05 lbs]
C50332	57 mm [2.25 in]	48 mm [1.9 in]	165 mm [6.5 in]	126 mm [5.0 in]	0.91 kg [2.0 lbs]
C50333	64 mm [2.5 in]	55 mm [2.16 in]	188 mm [7.4 in]	136 mm [5.35 in]	1.11 kg [2.45 lbs]
C50334	70 mm [2.75 in]	61 mm [2.4 in]	188 mm [7.4 in]	136 mm [5.35 in]	1.08 kg [2.4 lbs]
C50335	76 mm [3.0 in]	67 mm [2.65 in]	188 mm [7.4 in]	136 mm [5.35 in]	1.05 kg [2.3 lbs]

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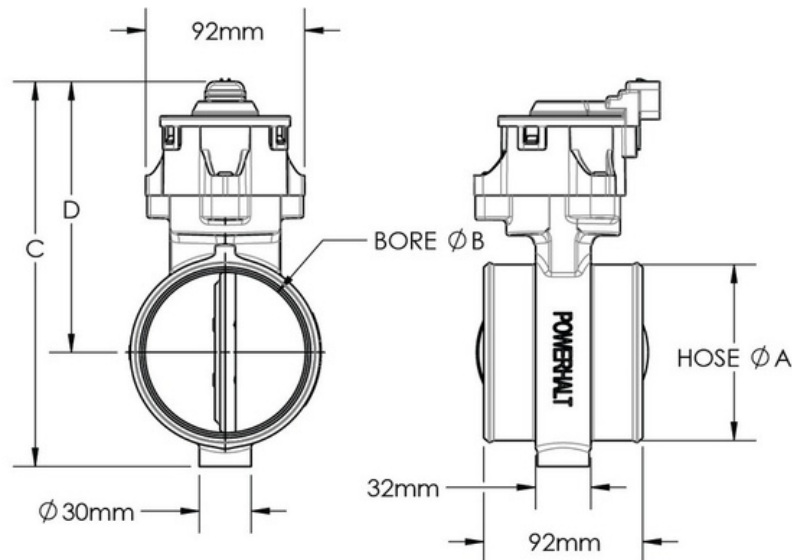
Bore: 88.9mm to 101.6mm [3.5" to 4.0"]

Maximum Intake Boost Air Pressure	3.45 bar (gauge) [50 psig]
Continuous Intake Air Temperature	-55°C to +175°C [-67°F to +347°F]
Ambient Temperature Range	-40°C to +120°C [-40°F to +248°F]
Ingress Protection	IP67
Vibration	18.6 G _{rms}

Resting Position	Valve open
Activated Position	Valve closed

Motor Coil Supply Voltage	13.5V nominal
Motor Coil Resistance	2.6Ω @ 20°C

Standard Mounting Flanges	Hose to Hose
Pipe Sizes Supported	Ø63.5 mm to Ø114 mm [Ø2.5 in to Ø4.5 in]



Part Number	Dimension				Weight
	'A' - Hose Bore Diameter	'B' - Valve Bore Diameter	'C' - Height	'D' - Height	
C50338	89 mm [3.5 in]	80 mm [3.15 in]	223 mm [8.78 in]	157 mm [6.18 in]	1.99 kg [4.39 lbs]
C50339	102 mm [4.0 in]	93 mm [3.65 in]	223 mm [8.78 in]	157 mm [6.18 in]	1.90 kg [4.19 lbs]

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Valve Selection Guide

The PH3 MKII Air Shut-off valve shall be sized to minimize the flow restriction on the engines inlet system while maintaining a reasonable fit to the architecture. Similar to all devices in the flow stream, the valve will have an effect on total system flow restriction and the level of restriction depends on the mass flow rate of the air. The PH3 MKII Air Shut-off valve produces a slight venturi effect within the body of the valve and for a short distance downstream, with flow recovery after a short distance. The overall pressure drop of the valve is calculated and correlated to various power levels for a general sizing reference guide shown below.

Valve Size (Hose Bore Diameter)	Recommended Engine Power (HP)		
	Min ¹	Optimal ²	Max ³
38 mm [1.5 in]	14	25	32
44.5 mm [1.75 in]	25	43	55
51 mm [2.0 in]	42	70	89
57 mm [2.25 in]	56	96	122
64 mm [2.5 in]	73	129	160
70 mm [2.75 in]	100	170	215
76 mm [3.0 in]	130	220	280
89 mm [3.5 in]	210	330	405
102 mm [4.0 in]	300	500	600

Specific flow restriction requirements must be confirmed by the system builder to meet any engine manufacturers requirements.

¹ Correlates to approximately 0.5kPa ΔP in open position during engine peak power

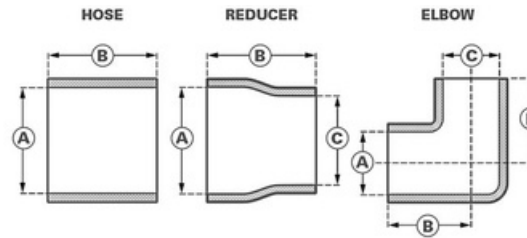
² Correlates to approximately 1.5kPa ΔP in open position during engine peak power

³ Correlates to approximately 2.5kPa ΔP in open position during engine peak power

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PowerHalt Valve Accessories

Hoses


Description
Temperature Range
Burst Pressure Rating

Silicone Class "A", 4 Ply Polyester Reinforced

-55°C to +175°C [-67°F to +347°F]

1 MPa [145 psi]

Part Number	Hose Type	'A' – Diameter	'B' – Hose Length	'C' – Diameter
C5082	Straight	38.1mm [1.5 in]	76.2 mm [3.0 in]	N/A
C3912	Straight	44.5mm [1.75 in]	76.2 mm [3.0 in]	N/A
C3913	Straight	50.8 mm [2.0 in]	76.2 mm [3.0 in]	N/A
C3914	Straight	57.2 mm [2.25 in]	76.2 mm [3.0 in]	N/A
C3997	Straight	63.5 mm [2.5 in]	76.2 mm [3.0 in]	N/A
C3784	Straight	69.9 mm [2.75 in]	76.2 mm [3.0 in]	N/A
C3828	Straight	76.2 mm [3.0 in]	76.2 mm [3.0 in]	N/A
C3789	Straight	88.9 mm [3.5 in]	76.2 mm [3.0 in]	N/A
C3859	Straight	88.9 mm [3.5 in]	101.6 mm [4.0 in]	N/A
C3792	Straight	101.6 mm [4.0 in]	76.2 mm [3.0 in]	N/A
C3797	Straight	127 mm [5.0 in]	76.2 mm [3.0 in]	N/A
C5009	Straight	139.7 mm [5.5 in]	76.2 mm [3.0 in]	N/A
C4070	Reducer	44.5 mm [1.75 in]	76.2 mm [3.0 in]	38.1 mm [1.5 in]
C3835	Reducer	69.9 mm [2.75 in]	76.2 mm [3.0 in]	44.5 mm [1.75 in]
C3783	Reducer	69.9 mm [2.75 in]	76.2 mm [3.0 in]	63.5 mm [2.5 in]
C3786	Reducer	76.2 mm [3.0 in]	76.2 mm [3.0 in]	69.9 mm [2.75 in]
C3866	Reducer	88.9 mm [3.5 in]	76.2 mm [3.0 in]	63.5 mm [2.5 in]
C3831	Reducer	88.9 mm [3.5 in]	76.2 mm [3.0 in]	69.9 mm [2.75 in]
C3788	Reducer	88.9 mm [3.5 in]	76.2 mm [3.0 in]	76.2 mm [3.0 in]
C3860	Reducer	88.9 mm [3.5 in]	76.2 mm [3.0 in]	82.6 mm [3.25 in]
C3861	Reducer	95.3 mm [3.75 in]	76.2 mm [3.0 in]	88.9 mm [3.5 in]
C3791	Reducer	101.6 mm [4.0 in]	76.2 mm [3.0 in]	88.9 mm [3.5 in]
C3862	Reducer	101.6 mm [4.0 in]	76.2 mm [3.0 in]	95.3 mm [3.75 in]
C3863	Reducer	108 mm [4.25 in]	76.2 mm [3.0 in]	101.6 mm [4.0 in]
C3794	Reducer	114.3 mm [4.5 in]	76.2 mm [3.0 in]	101.6 mm [4.0 in]
C3796	Reducer	127 mm [5.0 in]	76.2 mm [3.0 in]	114.3 mm [4.5 in]
C3864	Reducer	127 mm [5.0 in]	76.2 mm [3.0 in]	120.7 mm [4.75 in]
C3865	Reducer	133.4 mm [5.25 in]	76.2 mm [3.0 in]	127 mm [5.0 in]
C3799	Reducer	139.7 mm [5.5 in]	76.2 mm [3.0 in]	127 mm [5.0 in]
C3832	120° Elbow	69.9 mm [2.75 in]	127 mm [5.0 in]	69.9 mm [2.75 in]
C3857	90° Elbow	76.2 mm [3.0 in]	127 mm [5.0 in]	69.9 mm [2.75 in]
C3834	90° Elbow	88.9 mm [3.5 in]	127 mm [5.0 in]	69.9 mm [2.75 in]
C3829	90° Elbow	88.9 mm [3.5 in]	127 mm [5.0 in]	76.2 mm [3.0 in]

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Clamps



Description	Stainless Steel, Constant Tension Gear Clamp, Heavy Duty
Standard	SAE J1508 Type SLHD
Size Range	45 mm to 80 mm [1.75 in to 3.13 in]
Installation Torque	8.5 Nm [75 in-lbf]

Part Number	SAE Size	Minimum Diameter	Maximum Diameter	Band Width
C3975	262	44.5 mm [1.75 in]	66.7 mm [2.625 in]	15.9 mm [0.625 in]
C3976	312	57.2 mm [2.25 in]	79.4 mm [3.125 in]	15.9 mm [0.625 in]



Description	Stainless Steel, Spring Loaded T-Bolt Clamp, Heavy Duty
Standard	SAE J1508 Type SLTB
Size Range	70 mm to 152 mm [2.75 in to 6 in]
Installation Torque	8.5 Nm [75 in-lbf]

Part Number	SAE Size	Minimum Diameter	Maximum Diameter	Band Width
C3871	60	69.9 mm [2.75 in]	77.8 mm [3.063 in]	19.1 mm [0.75 in]
C3872	68	76.2 mm [3.0 in]	84.1 mm [3.313 in]	19.1 mm [0.75 in]
C3873	76	82.6 mm [3.25 in]	90.5 mm [3.563 in]	19.1 mm [0.75 in]
C3874	84	88.9 mm [3.5 in]	96.8 mm [3.813 in]	19.1 mm [0.75 in]
C3875	92	95.3 mm [3.75 in]	103.2 mm [4.063 in]	19.1 mm [0.75 in]
C3977	96	98.4 mm [3.875 in]	106.4 mm [4.188 in]	19.1 mm [0.75 in]
C3876	102	103.2 mm [4.063 in]	111.1 mm [4.375 in]	19.1 mm [0.75 in]
C3877	104	104.8 mm [4.125 in]	112.7 mm [4.438 in]	19.1 mm [0.75 in]
C3878	116	114.3 mm [4.5 in]	122.2 mm [4.813 in]	19.1 mm [0.75 in]
C3879	124	120.7 mm [4.75 in]	128.6 mm [5.063 in]	19.1 mm [0.75 in]
C3880	136	130.2 mm [5.125 in]	138.1 mm [5.438 in]	19.1 mm [0.75 in]
C3881	140	133.4 mm [5.25 in]	141.3 mm [5.563 in]	19.1 mm [0.75 in]
C3882	148	139.7 mm [5.5 in]	147.6 mm [5.813 in]	19.1 mm [0.75 in]
C3883	154	144.5 mm [5.688 in]	152.4 mm [6.0 in]	19.1 mm [0.75 in]

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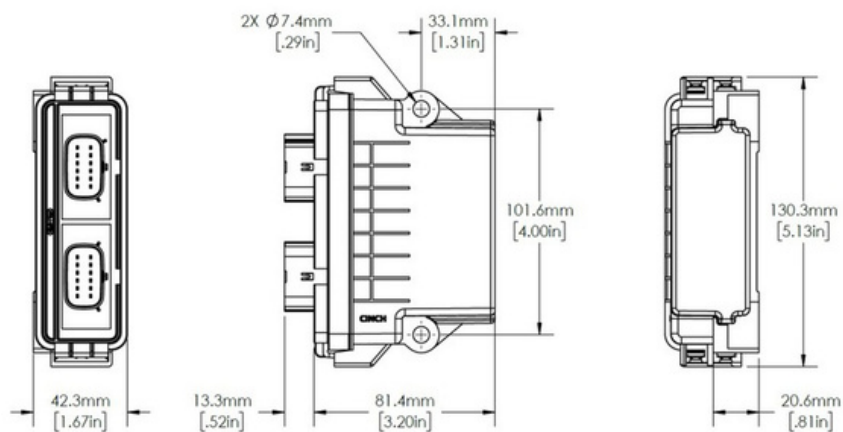
Controller Options

Automatic Controller

Automatic Controller monitors engine speed via speed sensor of your choice and will automatically trigger the PH3 Air Intake Shut-Off Valve to shut down engine when programmed trip speed is exceeded. All control and programming is completed using toggle switch and harness mounted Mode Selection Box.

- Capable of shutting down engine automatically via overspeed signal, manually via toggle switch, or externally via auxiliary input signal from external device
- Valve remains closed for minimum 15 seconds after tripping – maximum closed time of 18 minutes
- In Automatic Reset Mode, valve will electronically reset upon removal of shut-down signal while Manual Reset Mode requires an additional press of switch to reset.
- When valve is closed, supplied switch light becomes lit and auxiliary output signal for activating external devices becomes active
- Capable of shutting down at a secondary trip speed for special applications such as protection of PTO equipment or theft prevention
- Compatible with Hall Effect (5V Square Wave), VR (Sine Wave), CAN Bus (J1939 and ISO 15765-4 OBDII), and Gen-end (60 Hz AC) speed signals (when using C20698 Harness)
- Automatic CAN baud rate and protocol detection available.

Controller Voltage	12/24 VDC (9 to 32 VDC)
Seal Rating	IP67, IP69K
Ambient Temperature Range	-40°C to +85°C [-40°F to +185°F]
Vibration	8 G _{rms}
Valve Activation Duration	15 seconds MIN / 18 minutes MAX
Current Consumption, Activation	8A MAX



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Part Number	Compatible Speed Signal	Current Consumption, Idle (12VDC) ¹	Current Consumption, Idle (24VDC) ¹
C20745-2	VR – Sine Wave; 150 V _{p-p} Max	10mA	6mA
C20745-3	Hall Effect 5V Square Wave + Gen-End	7mA	5mA
C20745-8	CAN Bus Universal (250/500/1000 kbps) + OBDII	11mA	7mA
C20745-9	CAN Bus Universal, Pre-set (2800rpm Trip, 1400rpm Test)	11mA	7mA
C20745-10	CAN Bus Universal, Pre-set (2700rpm Trip, 1350rpm Test)	11mA	7mA
C20745-11	CAN Bus Universal, Pre-set (2160rpm Trip, 1080rpm Test)	11mA	7mA
C20745-12	CAN Bus Universal, Pre-set (2400rpm Trip, 1200rpm Test)	11mA	7mA
C20745-13	Gen-End, Preset (60Hz +10%, 66Hz Trip, 54Hz Test)	10mA	5mA
C20745-14	Gen-End, Preset (60Hz +20%, 72Hz Trip, 54Hz Test)	10mA	5mA
C20745-15	Gen-End, Preset (60Hz +30%, 78Hz Trip, 54Hz Test)	10mA	5mA

¹ Controllers must be in a normal operating state with engine not running, no active commands

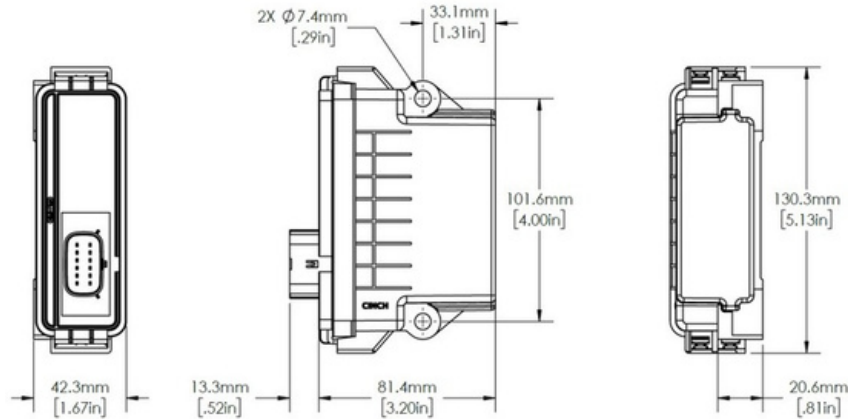
Note: For C20745 controllers, the values represent the low-power state active. The device must see inactivity for 5 minutes to enter the low-power state.

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Manual Controller

Manual Controller is designed to activate PH3 Air Intake Shut-Off Valve when operator manually activates emergency trip switch.

- Capable of shutting down engine manually via toggle switch or externally via auxiliary input signal from external device
- Valve remains closed for minimum 15 seconds after tripping – maximum closed time of 18 minutes
- Controller will electronically reset valve to open position when shut-down signal is removed
- When valve is closed, supplied switch light becomes lit and auxiliary output signal for activating external devices becomes active



Part Number	C20645-1	C20745-1
Controller Voltage	12/24 VDC (9 to 32 VDC)	12/24 VDC (9 to 32 VDC)
Seal Rating	IP67, IP69K	IP67, IP69K
Ambient Temperature Range	-40°C to +85°C [-40°F to +185°F]	-40°C to +85°C [-40°F to +185°F]
Valve Activation Duration	15 seconds MIN / 18 minutes MAX	15 seconds MIN / 18 minutes MAX
Current Consumption, Idle (12VDC, Nominal)	18 mA	12 mA
Current Consumption, Idle (24VDC, Nominal)	11 mA	8 mA
Current Consumption, Activation	8A MAX	8A MAX
Auxiliary Output Signal (Active while Valve Activated) [Connector A, Pin 4]	Output: 330mA MAX @ 12VDC, nominal	Output: 330mA MAX @ 12VDC, nominal
Auxiliary Input Signal (Secondary Activation Signal) [Connector A, Pin 11]	Input: 6 to 36VDC	Input: 6 to 36VDC
Installation Torque	1.13 to 1.36 Nm [10 to 12 in-lbf]	1.13 to 1.36 Nm [10 to 12 in-lbf]

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Wiring Harnesses

Common Wiring Harness (Harness A)

The Common Wiring Harness supplies power to the PowerHalt system and is used to control valve activation by means of a toggle switch. The harness is compatible with both Controller options (Automatic & Manual). It is available in 4 different lengths and has 2 different variants to accommodate the different valve sizes.

Temperature Range

-40°C to +105°C [-40°F to +221°F]

Sealed Connectors

Yes, IP67

Flammability Rating

FT2

RoHS Compliant

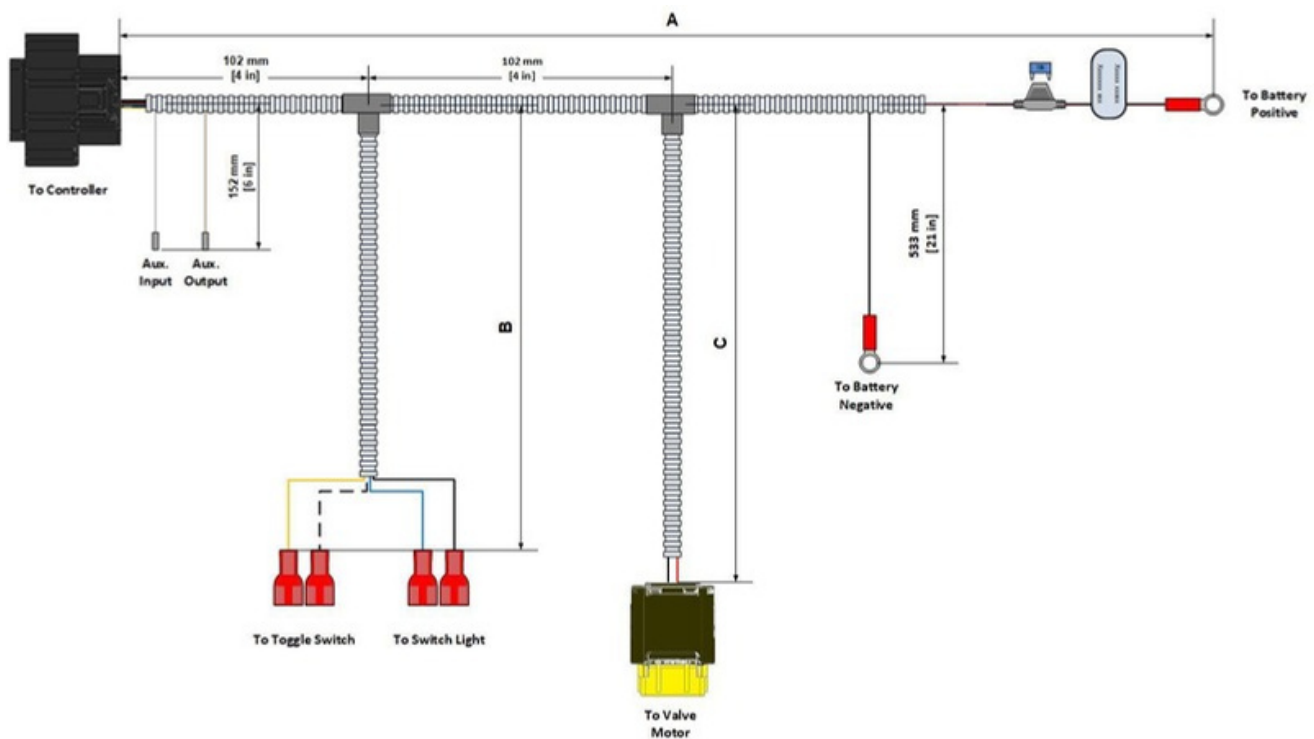
Yes

Environmental Resistance

Fuel, oil, and solvent compatible

Wiring

SAE J1128, Tinned Copper Conductor



Part Number	Dimension			Compatible Valve Sizes
	A	B	C	
C20683-5	1525mm [60in]	1420mm [56in]	1320mm [52in]	1.5" to 3.0"
C20683-10	3050mm [120in]	2945mm [116in]	2845mm [112in]	
C20683-15	4570mm [180in]	4470mm [176in]	4370mm [172in]	
C20683-20	6100mm [240in]	5995mm [236in]	5895mm [232in]	
C20684-5	1525mm [60in]	1420mm [56in]	1320mm [52in]	3.5" to 4.0"
C20684-10	3050mm [120in]	2945mm [116in]	2845mm [112in]	
C20684-15	4570mm [180in]	4470mm [176in]	4370mm [172in]	
C20684-20	6100mm [240in]	5995mm [236in]	5895mm [232in]	

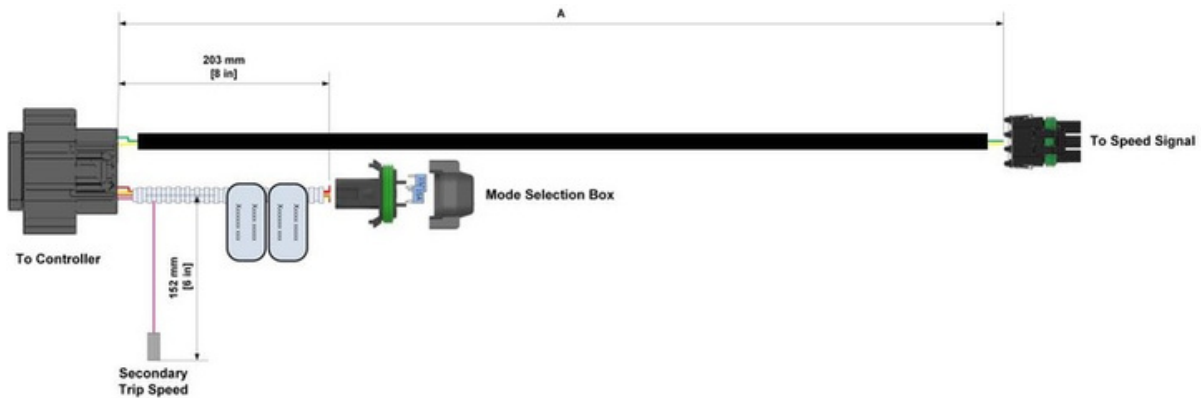
If extending wiring harness lengths, individual runs must not extend beyond 6 meters [20 feet] from controller. Use sealed connections and specified wiretype & size. See Installation Manual for details.

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Speed Signal Wiring Harness (Harness B)

The Speed Signal Wiring Harness is used to supply a speed signal to the PowerHalt system. Harness B is compatible with the Automatic Controller option only. It is available in multiple lengths and different variants, each compatible with a different speed signal.

Temperature Range	-40°C to +105°C [-40°F to +221°F]
Sealed Connectors	Yes, IP65
Flammability Rating	FT2
RoHS Compliant	Yes
Environmental Resistance	Fuel, oil, and solvent compatible
Wiring	SAE J1128, Tinned Copper Conductor



Part Number	Speed Signal	Dimension – A ⁴	Compatible Controller(s)
C20685-5	Hall Effect [3 Wire]	1525mm [60in]	C20645-3 C20745-3
C20685-10		3050mm [120in]	
C20686-10	VR (Deutsch) [2 Wire]	3050mm [120in]	C20645-2 C20745-2
C20687-5	VR (Weather-Pack) [2 Wire]	1525mm [60in]	
C20687-10		3050mm [120in]	
C20689-3	CAN Bus, J1939 250kbps (Black)	915mm [36in]	C20645-4,C20645-8 C20745-8
C20689-6		1830mm [72in]	
C20694	CAN Bus, Generic	915mm [36in]	
C20695	CAN Bus, Deutz Engine 12 Pin	915mm [36in]	
C20688-3	CAN Bus, J1939 500kbps (Green)	915mm [36in]	C20645-5,C20645-8 C20745-8
C20688-6		1830mm [72in]	
C20690-3	CAN Bus, RP1226	915mm [36in]	C20645-4,C20645-5 C20645-8,C20745-8
C20697	CAN Bus, ISO 15765-4 OBDII	915mm [36in]	C20645-8,C20745-8

⁴ Extending Length 'A' on harness 'B' is NOT permitted. If extending other wiring harness lengths, individual runs must not extend beyond 6 meters [20 feet] from controller. Use sealed connections and specified wire type & size. See Installation Manual for details.

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Part Number	Speed Signal	Dimension – A ⁴	Compatible Controller(s)
C20698-5	Gen-End [2 Wire] ⁵	1525mm [60in]	C20645-7 C20745-3
C20698-10		3050mm [120in]	
C20700-3	CAN Bus J1939, Deutsch 3-pin DT, "T" harness	915mm [36in]	C20645-4, C20645-5, C20645-8 C20745-8
C20700-6		1830mm [72in]	
C20701	CAN Bus J1939, Deutsch 6-pin DT, "T" harness, for Bobcat	585mm [23in]	

Control Accessories

Control Switches

A momentary switch with LED indicator is required to activate and program PowerHalt systems. An illuminated switch with protective toggle cover is the standard option. A latching toggle switch may be used to activate the valve using the Auxiliary Input Signal or with the Secondary Trip Speed input for special applications such as theft prevention or protection of PTO equipment. All available options are listed below.



Part Number	C50344	C50274	C50345	C50352
Description	Toggle Switch, Illuminated	Toggle Switch, Simple	Rocker Switch, Locking, Sealed	Rocker Switch, Locking, Illuminated, Sealed
Temperature Range	-40°C to +85°C [-40°F to +185°F]	-25°C to +80°C [-13°F to +176°F]	-40°C to +85°C [-40°F to +185°F]	-40°C to +85°C [-40°F to +185°F]
Signal Voltage	12/24 VDC, nominal			
Illuminated Switch Lamp				
Voltage	12 VDC	-	-	12 VDC
Seal Rating	-	-	IP 66/68 (Above panel)	IP 66/68 (Above panel)
Hole Size	Ø12.7 mm [0.5 in]	Ø12.7 mm [0.5 in]	36.83 mm x 21.08 mm [1.45 in x 0.83 in]	36.83 mm x 21.08 mm [1.45 in x 0.83 in]
Max Mounting Panel Thickness	4.16 mm [0.164 in]	6.75 mm [0.266 in]	6.35 mm [0.250 in]	6.35 mm [0.250 in]
Connection	6.3 mm [0.250 in] Quick Connect Terminals	6.3 mm [0.250 in] Quick Connect Terminals	6.3 mm [0.250 in] Quick Connect Terminals	6.3 mm [0.250 in] Quick Connect Terminals
Toggle Cover	Included	Included	Integrated Lock	Integrated Lock
Standard / Optional	Standard	Optional	Optional	Optional

⁵ Max 250 volts. Use on high voltage systems may be possible. See installation manual for details.

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Panel Indicator Light (Optional)

A panel indicator light can be used in conjunction with the controller to indicate valve position. Auxiliary Output signal from controllers becomes active when valve is closed¹ and can be used to illuminate the light.

Temperature Range

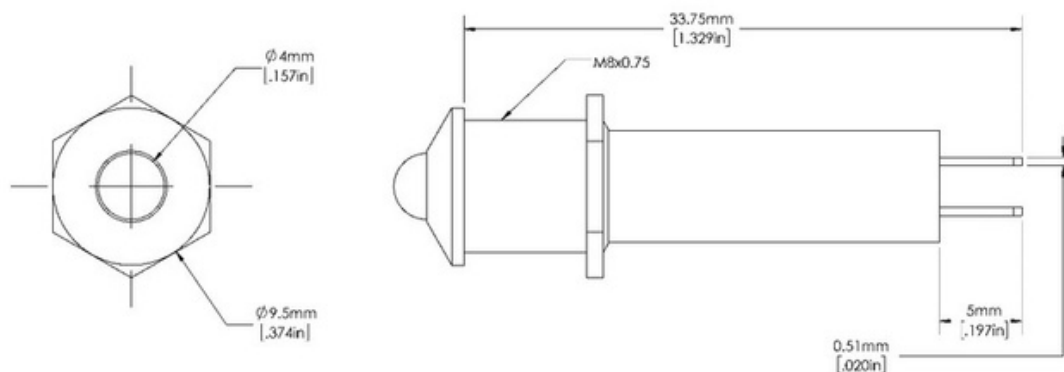
-40°C to +85°C [-40°F to +185°F]

Supply Voltage

12VDC / 24VDC, nominal

Light Colour

Red



Part Number	Voltage	Thru-Hole Drill Size	Connection	Max Mounting Panel Thickness
C11313	12VDC	8.0 mm [0.315 in]	2.8 mm [0.110 in] Quick Connect Terminals	6.75 mm [0.266 in]
C11313-24	24VDC			

¹ Auxiliary Output Signal will NOT become active if valve is actuated via Auxiliary Input Signal

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Speed Signal Options

Magnetic Pick-Up Sensor, (Gear Tooth Sensor)

Magnetic Pick-Up Sensors are installed into the engine bellhousing to read engine speed directly from the flywheel teeth.

Temperature Range

-40°C to +105°C [-40°F to +221°F]

Sealed Connectors

Yes, IP65

Environmental Resistance

Fuel, oil, and solvent compatible



Part Number	Signal Output	Thread Size	Available Sensor Lengths	Installation Torque	Compatible PowerHalt Signal Harness
C50032	Hall Effect: 5V Square Wave	3/8 - 24 UNF	51 mm [2 in]	5.4 Nm [48 in-lbf]	C20685
C50095			76 mm [3 in]		
C50033		5/8 - 18 UNF	51 mm [2 in]	32.5 Nm [24 ft-lbf]	
C50279			64 mm [2.5 in]		
C50034		3/4 - 16 UNF	64 mm [2.5 in]	81.3 Nm [60 ft-lbf]	
C50132	VR:	Push-In	-	-	C20686
C50193	Sine Wave	3/4 - 16 UNF	76 mm [3 in]	23.0 Nm [17 ft-lbf]	C20687

Offset Flywheel Adapter

For accurate speed measurement, the sensor face must have an unobstructed view of the flywheel teeth. If flywheel teeth are offset or not fully visible through sensor port, an adapter combined with a smaller size sensor (C50095 or C50196) can be used to increase accuracy.



Part Number	Internal Thread	External Thread	Compatible Sensors
C50137	3/8-24 UNF	3/4-16 UNF	C50095, C50196
C50195	3/8-24 UNF	M18x1.5	C50095, C50196

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W or R-Terminal Harness

The W or R-Terminal Harness allows the system to measure engine speed on the W or R-Terminal of an engine's alternator.



Temperature Range
Sealed Connectors
Environmental Resistance
Voltage Rating

-40°C to +105°C [-40°F to +221°F]
 Yes, IP65
 Fuel, oil, and solvent compatible
 60V

Part Number	Compatible PowerHalt Signal Harness
C20592	C20687

Crank Position Sensor Jumper Harness

The Crank Position Sensor Jumper Harness allows the system to measure engine speed by sampling the signal from the OEM crank position sensor. It is a T-Harness that fits between the OEM crank position sensor and OEM engine harness.



Temperature Range
Sealed Connectors
Environmental Resistance

-40°C to +105°C [-40°F to +221°F]
 Yes, IP65
 Fuel, oil, and solvent compatible

Part Number	Engine Application	Compatible OEM Sensor P/N	Compatible PowerHalt Signal Harness
C20577	Cummins	2872279	C20685
C20595	GM	L5P Engine Harness / Chassis Harness	C20685
C20656	Universal	Generic (5V Square Wave)	C20685
C20670	Paccar	1607435PE	C20687
C20677	Cummins	4327230	C20685

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