

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  $18.6G_{RMS}$  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          |
| • Fueling Vehicles        | • Tow Vehicles      | • Support Vehicles      | • Welders         |
| • Pump Trucks             | • Fire Trucks       | • Vacuum Trucks         | • Lighting Trucks |
| • Lighting Units          | • Frac Trucks       | • Well Service Trucks   |                   |

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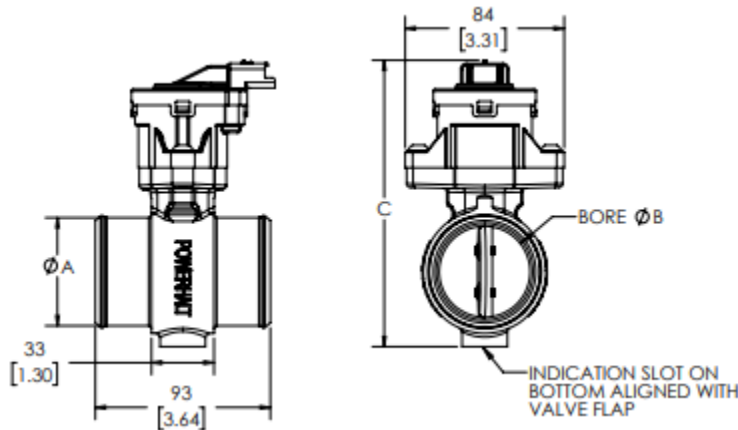
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## PowerHalt Valves

**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 <sub>rms</sub>
Resting Position	Valve open
Activated Position	Valve closed
Motor Coil Supply Voltage	13.5V nominal
Motor Coil Resistance	2.0Ω nominal
Motor Sensor Supply Voltage	5V nominal, 5.5V Max
Motor Current	8A max current supply for instantaneous drive open/closed 1.5A max regulated current supply for continuous position hold (PWM recommended)

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



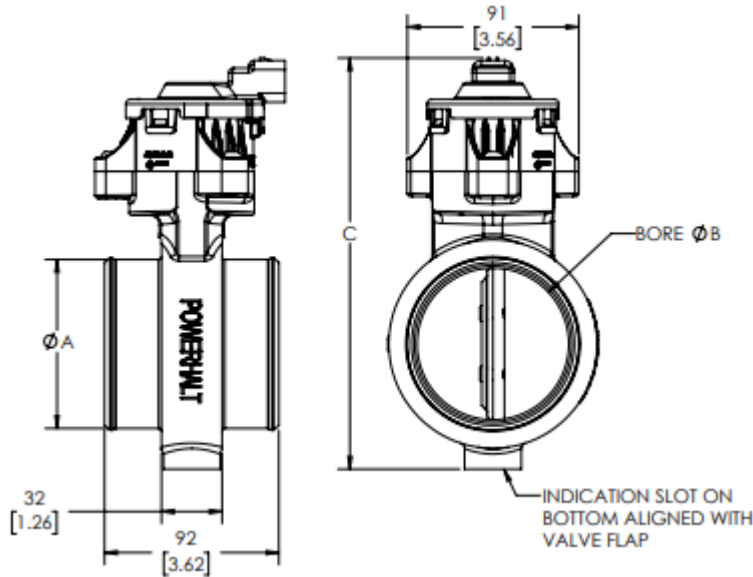
Part Number	Dimension			Weight
	'A' - Hose Bore Diameter	'B' - Valve Bore Diameter	'C' - Height	
C50347	38 mm [1.5 in]	29mm [1.14 in]	140 mm [5.51 in]	0.63 kg [1.4 lbs]
C50330	44.5 mm [1.75 in]	35.5 mm [1.40 in]	149.5 mm [5.88 in]	0.75 kg [1.7 lbs]
C50331	51 mm [2.0 in]	42 mm [1.65 in]	149.5 mm [5.88 in]	0.73 kg [1.6 lbs]
C50332	57 mm [2.25 in]	48 mm [1.89 in]	149.5 mm [5.88 in]	0.71 kg [1.6 lbs]
C50333	64 mm [2.5 in]	55 mm [2.17 in]	171.5 mm [6.75 in]	0.90 kg [2.0 lbs]
C50334	70 mm [2.75 in]	61 mm [2.40 in]	171.5 mm [6.75 in]	0.87 kg [1.9 lbs]
C50335	76 mm [3.0 in]	67 mm [2.64 in]	171.5 mm [6.75 in]	0.84 kg [1.8 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 Grms
Resting Position	Valve open
Activated Position	Valve closed
Motor Coil Supply Voltage	13.5V nominal
Motor Coil Resistance	2.3Ω nominal
Motor Sensor Supply Voltage	5V nominal, 5.5V Max
Motor Current	10A max current supply for instantaneous drive open/closed 1.5A max regulated current supply for continuous position hold (PWM recommended)

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

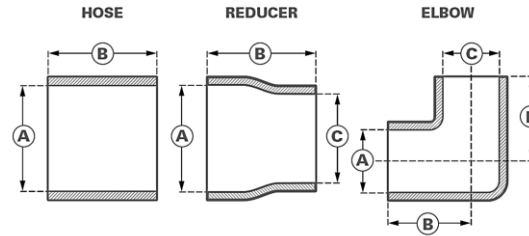


Part Number	Dimension			Weight
	'A' - Hose Bore Diameter	'B' - Valve Bore Diameter	'C' - Height	
C50338	89 mm [3.5 in]	80 mm [3.15 in]	215.4 mm [8.48 in]	1.64 kg [3.6 lbs]
C50339	102 mm [4.0 in]	93 mm [3.66 in]	215.4 mm [8.48 in]	1.55 kg [3.4 lbs]

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## PowerHalt Valve Accessories

### Hoses



**Description**

Silicone Class "A", 4 Ply Polyester Reinforced

**Temperature Range**

-55°C to +175°C [-67°F to +347°F]

**Burst Pressure Rating**

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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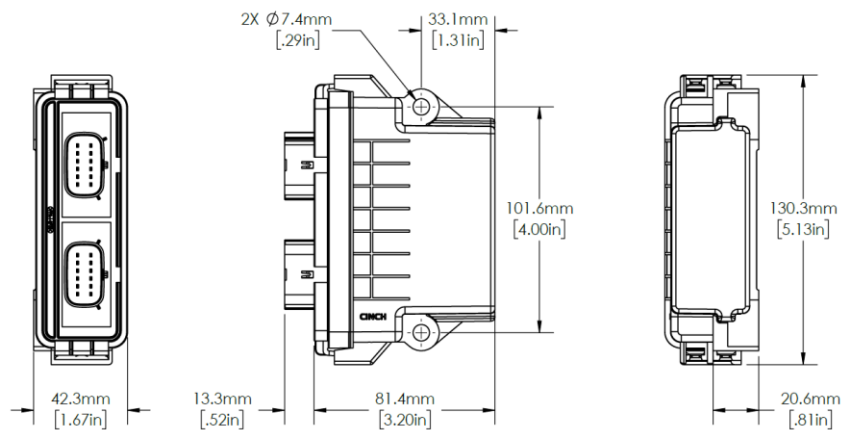
## Controller Options

### 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.

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



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Part Number	Compatible Speed Signal	Current Consumption, Idle (12VDC) <sup>1</sup>	Current Consumption, Idle (24VDC) <sup>1</sup>
C20645-2	VR – Sine Wave; 150 V <sub>p-p</sub> Max	38mA	23mA
C20645-3	Hall Effect 5V Square Wave	32mA	20mA
C20645-4	CAN Bus J1939 250kbps	40mA	24mA
C20645-5	CAN Bus J1939 500kbps	40mA	24mA
C20645-6	Gen-End 60 Hz AC	32mA	20mA
C20645-8	CAN Bus Universal (250/500/1000 kbps) + OBDII	32mA	20mA
C20645-9	CAN Bus, Pre-set (250kbps 2800rpm Trip, 1400rpm Test)	32mA	20mA
C20645-10	CAN Bus, Pre-set (250kbps 2700rpm Trip, 1350rpm Test)	32mA	20mA
C20645-11	CAN Bus, Pre-set (250kbps 2160rpm Trip, 1080rpm Test)	32mA	20mA
C20645-12	CAN Bus, Pre-set (250kbps 2400rpm Trip, 1200rpm Test)	32mA	20mA
C20745-2	VR – Sine Wave; 150 V <sub>p-p</sub> 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, Pre-set (250kbps 2800rpm Trip, 1400rpm Test)	11mA	7mA
C20745-10	CAN Bus, Pre-set (250kbps 2700rpm Trip, 1350rpm Test)	11mA	7mA
C20745-11	CAN Bus, Pre-set (250kbps 2160rpm Trip, 1080rpm Test)	11mA	7mA
C20745-12	CAN Bus, Pre-set (250kbps 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

<sup>1</sup> 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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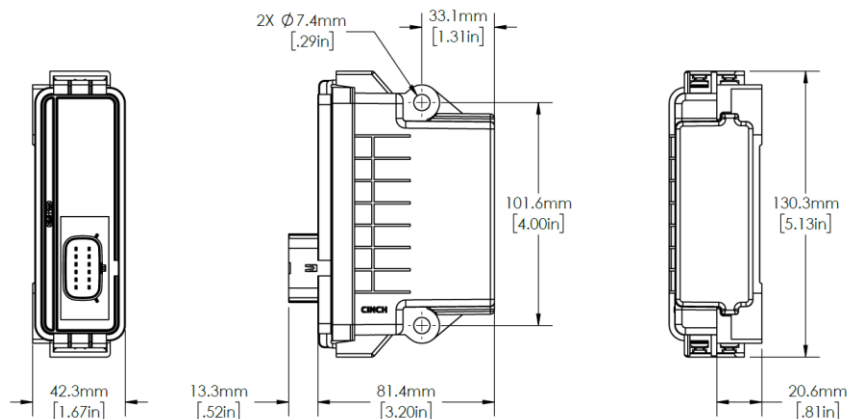
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### Manual Controller

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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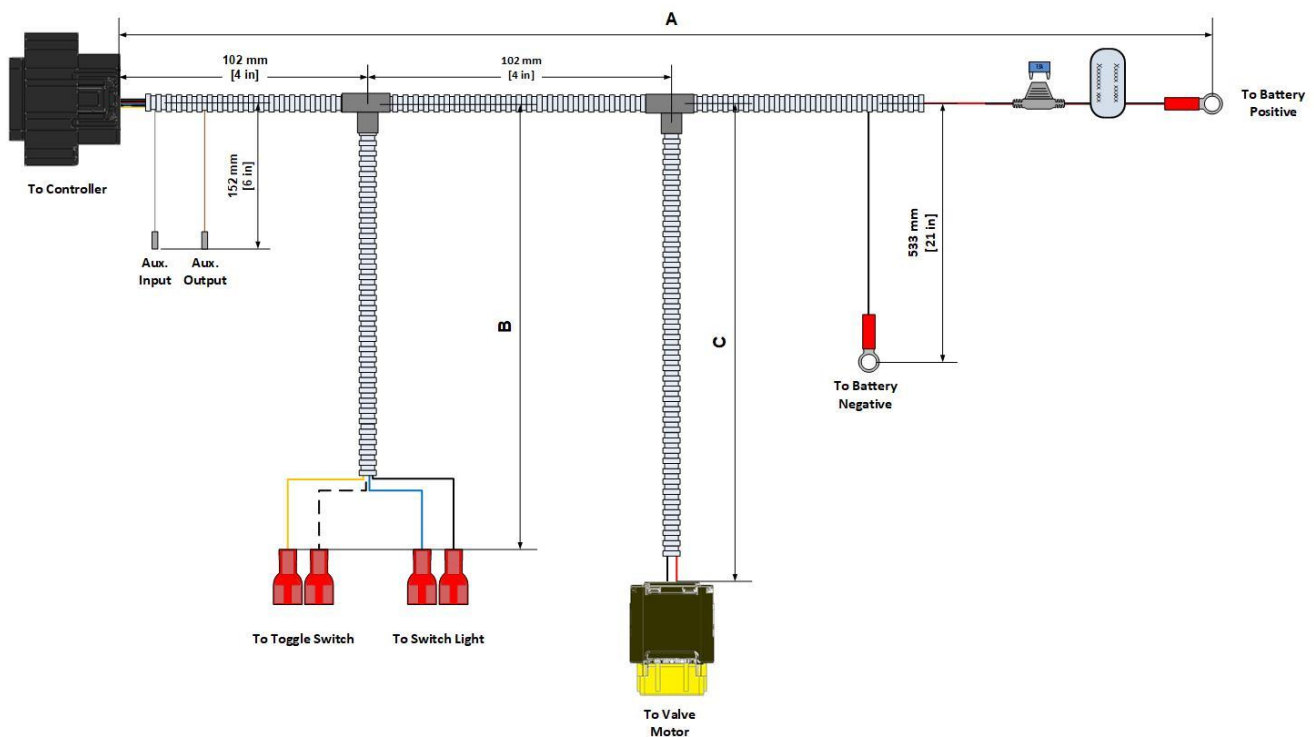
## Wiring Harnesses

### 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**  
**Sealed Connectors**  
**Flammability Rating**  
**RoHS Compliant**  
**Environmental Resistance**  
**Wiring**

-40°C to +105°C [-40°F to +221°F]  
 Yes, IP67  
 FT2  
 Yes  
 Fuel, oil, and solvent compatible  
 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]	

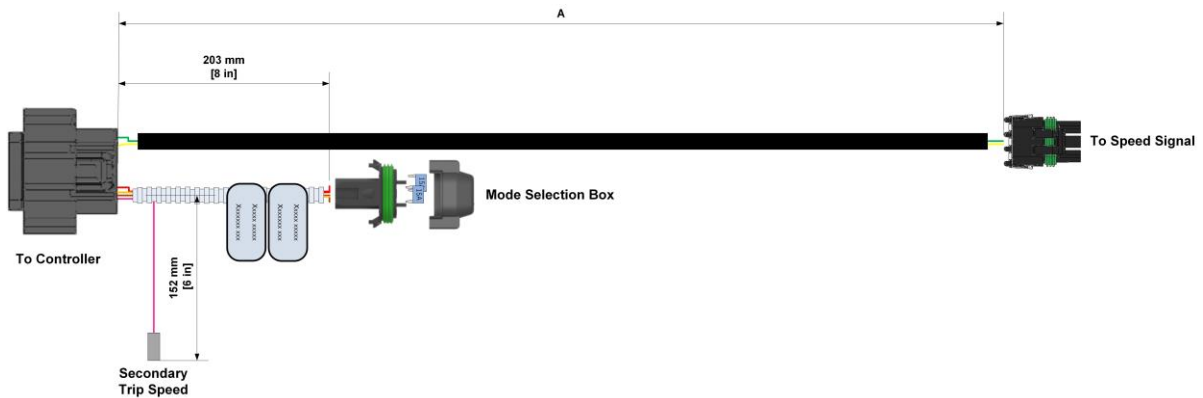
If extending wiring harness lengths, individual runs must not extend beyond 6 meters [20 feet] from controller. Use sealed connections and specified wire type & size. See Installation Manual for details.

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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.

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



Part Number	Speed Signal	Dimension – A <sup>1</sup>	Compatible Controller(s)
C20685-5	Hall Effect [3 Wire]	1525mm [60in]	C20645-3
C20685-10		3050mm [120in]	C20745-3
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

<sup>1</sup> 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 <sup>1</sup>	Compatible Controller(s)
C20698-5	Gen-End [2 Wire] <sup>2</sup>	1525mm [60in]	C20645-7
C20698-10		3050mm [120in]	C20745-3
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	585mmmm [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

<sup>2</sup> Max 250 volts. Use on higher voltage systems may be possible. See installation manual for details.

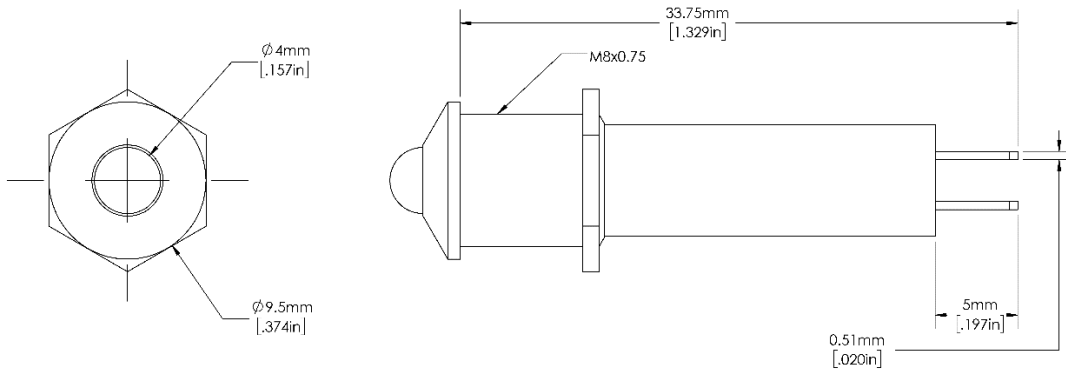
All information contained in this document is for reference only, subject to change without notice.

**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 closed<sup>1</sup> and can be used to illuminate the light.

**Temperature Range**  
**Supply Voltage**  
**Light Colour**

-40°C to +85°C [-40°F to +185°F]  
 12VDC / 24VDC, nominal  
 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			

<sup>1</sup> 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.

<b>Temperature Range</b>	-40°C to +105°C [-40°F to +221°F]
<b>Sealed Connectors</b>	Yes, IP65
<b>Environmental Resistance</b>	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			64 mm [2.5 in]		
C50132	VR: Sine Wave	Push-In	-	-	C20686
C50340		3/8 - 24 UNF	51 mm [2 in]	5.4 Nm [48 in-lbf]	C20687
C50341			76 mm [3 in]		
C50342		5/8 - 18 UNF	51 mm [2 in]	32.5 Nm [24 ft-lbf]	
C50343			64 mm [2.5 in]		
C50193			3/4 - 16 UNF		

### 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

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

### 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.



<b>Temperature Range</b>	-40°C to +105°C [-40°F to +221°F]
<b>Sealed Connectors</b>	Yes, IP65
<b>Environmental Resistance</b>	Fuel, oil, and solvent compatible
<b>Voltage Rating</b>	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.



<b>Temperature Range</b>	-40°C to +105°C [-40°F to +221°F]
<b>Sealed Connectors</b>	Yes, IP65
<b>Environmental Resistance</b>	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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