

Pacbrake PowerHalt Plus (PH+) Electronic Air Shutoff System is an electronically controlled emergency engine shut down system which forces engine shut down by blocking an engine's air intake path. Automatic shutdown is achieved by actuating the engine's existing electronic throttle unit if engine speed exceeds the pre-set speed or by manual override. The valve electronically returns to open position after emergency engine shutdown, all while providing feedback to the operator that the valve is held closed via an illuminated switch.



Product Highlights

- Reliable and safe emergency shut down for diesel engines with electronic throttle body
- Operator friendly fully automatic operation with manual override
- IP67 rated seal against water ingress
- Secondary Trip Speed for Power Take Off (PTO) and/or anti-theft applications
- Low power consumption with smart control
- Multiple built-in shutoff speeds

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

Table of Contents

PowerHalt PH+ Kits..... 3
 PH+ Kit Contents and Applications..... 3
PowerHalt PH+ Control..... 4
 Controller..... 4
Wiring Harnesses..... 5
 Common Wiring Harness (Harness A) 5
 Speed Signal and Valve Control Wiring Harness (Harness B) 6
Control Accessories 7
 Toggle Switches 7

PowerHalt PH+ Kits

PH+ Kit Contents and Applications

PowerHalt PH+ Kits contain all the necessary components needed for a simple plug and play installation. Install can generally be completed in less than 60 minutes for most applications and the system can be uninstalled in similar time if removal is required, such as for truck lease returns. All PH+ kits feature:

- PowerHalt PH+ Controller providing Automatic engine shutdown in emergency situations
- Common Wiring Harness to provide system power and manual activation control for all applications
- Speed Signal and Valve Control Harness with vehicle specific factory connectors
- In-Cab Toggle Switch for manual shutdown included



Kit Number	Make	Year	Style	Engine
C50317A	Dodge / Ram	2007 - 2009	Pickup	Cummins 6.7L
		2007 - 2010	Cab and Chassis	
C50318A		2010 - 2018	Pickup	
		2011 - 2018	Cab and Chassis	
C50353A		2019 - 2024	Pickup	
			Cab and Chassis	
C50368A		2025 - 2026	Pickup	
Cab and Chassis				
C50354A		2014 - 2023	Pickup	EcoDiesel 3.0L
C50355A		Ford	2008 - 2010	Pickup
Cab and Chassis				
C50356A	2011 - 2019		Pickup	Power Stroke 6.7L
			Cab and Chassis	
C50351A	2020 - 2026		Pickup	
			Cab and Chassis	
C50358A	Chevrolet / GMC	2007 - 2010	Pickup	Duramax 6.6L (LMM)
		2011 - 2012	Cab and Chassis	Duramax 6.6L (LGH)
C50359A		2011 - 2016	Pickup	Duramax 6.6L (LML)
		2013 - 2016	Cab and Chassis	Duramax 6.6L (LGH)
C50360A		2017 - 2020	Pickup	Duramax 6.6L (L5P)
		2019 - 2020	Cab and Chassis	Duramax 6.6L (L5P)
C50362A		2021 - 2026	Pickup	Duramax 6.6L (L5P)
C50361A		2016 - 2026	Pickup	Duramax 2.8L (LWN) 3.0L (LM2/LZ0)

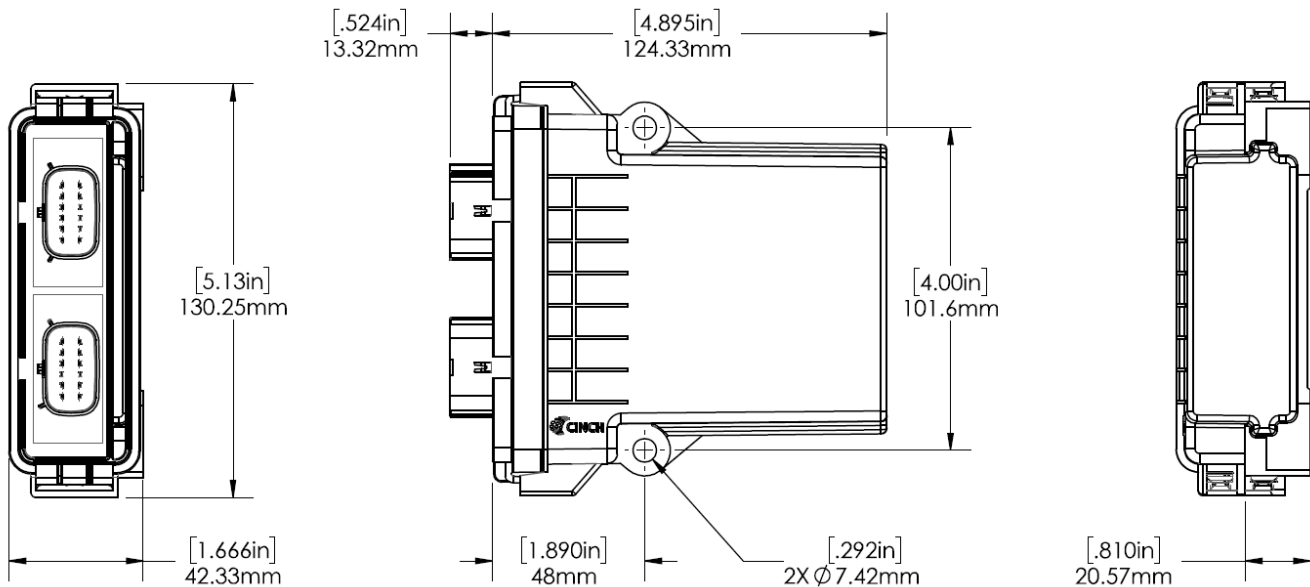
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PowerHalt PH+ Control

Controller

PowerHalt PH+ Controller monitors engine speed via engine crankshaft signal and will automatically trigger the factory electronic throttle body to close and shut down the engine when programmed trip speed is exceeded. The controller has a fixed number of selectable trip speeds or emergency shutdown can be activated at any time through a manual override toggle. All control and programming are completed using the toggle switch and harness mounted mode selection connector.

- Capable of shutting down engine automatically via overspeed signal or manually via toggle switch
- Capable of shutting down at a secondary trip speed for special applications such as protection of PTO equipment or as an anti-theft device
- Valve remains closed for minimum 15 seconds after tripping and will hold closed until removal of shut-down signal
- When valve is closed, supplied switch light illuminates to indicate system activation
- Valve will electronically reset and switch light will extinguish upon removal of engine shut-down signal
- Secondary trip speed for PTO and anti-theft applications – providing ground to the Secondary Trip Speed input allows users to engage a second emergency shut-down speed for use while powering auxiliary equipment or to prevent theft. To prevent accidental shut down while enabling and disabling Secondary Trip Speed, 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.



Part Number	C20640
Controller Voltage	Battery Voltage, 12 VDC Nominal (9 – 14 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 minimum
Current Consumption, Idle (12VDC, Nominal)	17.5 mA @ 12 VDC
Current Consumption, Activation	9.5 A MAX @ 14 VDC
PTO Input Signal (Secondary Activation Signal) [Connector B, Pin 3]	Ground
Installation Torque	1.13 to 1.36 Nm [10 to 12 in-lbf]

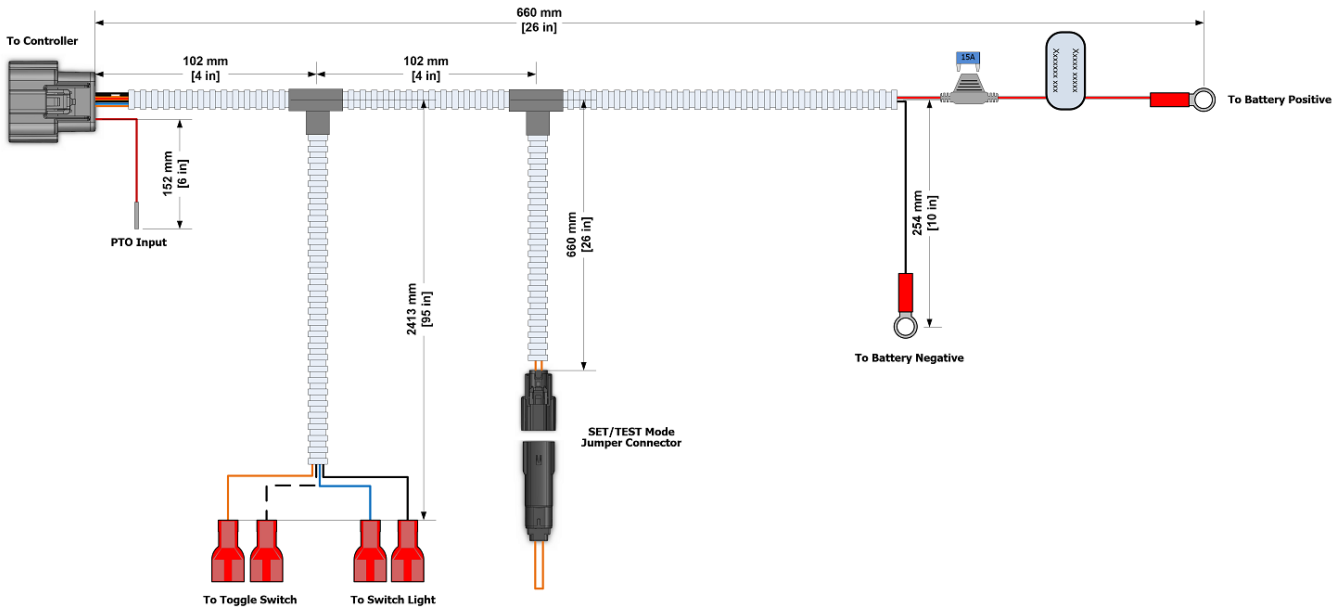
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Wiring Harnesses

Common Wiring Harness (Harness A)

The Common Wiring Harness supplies power to the PH+ system and is used to control valve activation by means of a toggle switch or through PTO activation. The harness controls the PH+ system mode through a jumper connector and provides user feedback through an LED indicator for system programming and valve activation status.

Temperature Range	-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



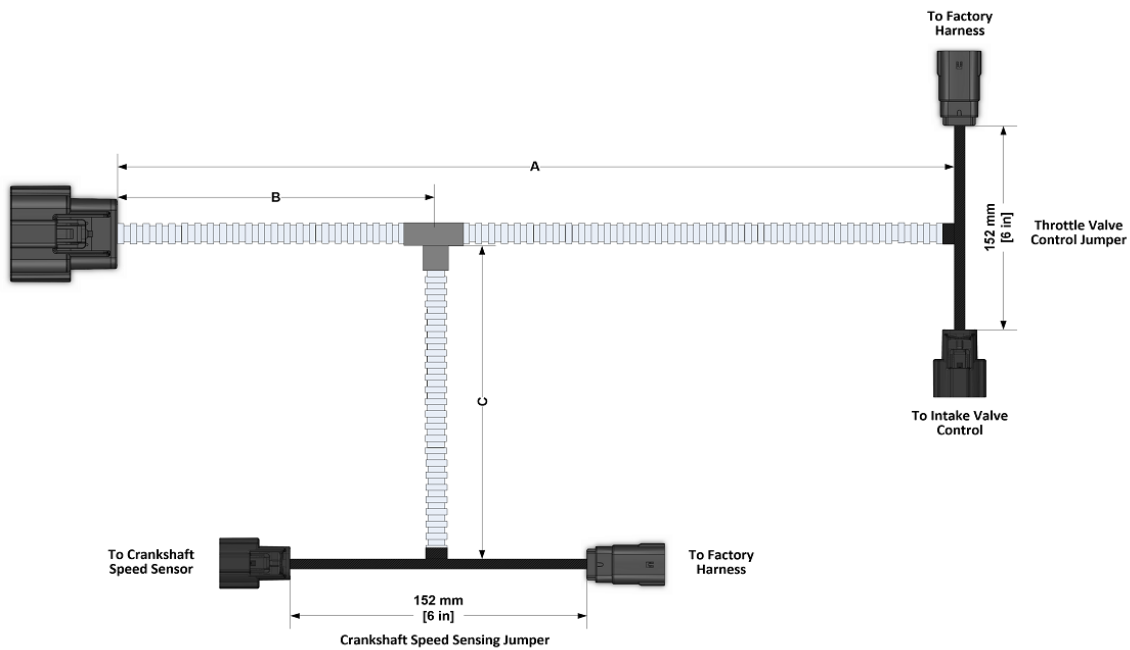
Part Number	C20630
Overload Protection	In-line 15A Mini Fuse
System Mode Selection	Jumper Connected: Run / Operation Mode Jumper Disconnected: Set / Test Mode

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.

Speed Signal and Valve Control Wiring Harness (Harness B)

The Speed Signal and Valve Control Wiring Harness is used to supply a speed signal to the PowerHalt PH+ system and control the electronic throttle valve position. The harness is available with application specific connectors and lengths customized to your model year and engine.

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, 18 AWG



Part Number	Compatible Engine	Model Years	Dimension		
			A	B	C
C20631	Dodge Cummins 6.7L *	2007 – 2009	530mm [21in]	480mm [19in]	815mm [32in]
C20632	Dodge Cummins 6.7L *	2010 – 2018	530mm [21in]	480mm [19in]	815mm [32in]
C20705	Dodge Cummins 6.7L	2019 – 2024	530mm [21in]	480mm [19in]	815mm [32in]
C20751	Dodge Cummins 6.7L	2025 – 2026	530mm [21in]	480mm [19in]	815mm [32in]
C20633	Dodge EcoDiesel 3.0L	2014 – 2023	2005mm [79in]	125mm [5in]	2135mm [84in]
C20634	Ford Power Stroke 6.4L	2008 – 2010	1500mm [59in]	1400mm [55in]	1525mm [60in]
C20635	Ford Power Stroke 6.7L	2011 – 2019	1500mm [59in]	125mm [5 in]	1575mm [62in]
C20706	Ford Power Stroke 6.7L	2020 – 2026	1650mm [65in]	125mm [5 in]	1725mm [68in]
C20636	GM Duramax 6.6L (LMM, LGH) *	2008 – 2010	1855mm [73in]	1755mm [69 in]	760mm [30in]
C20637	GM Duramax 6.6L (LML, LGH) *	2011 – 2016	1550mm [61in]	1450mm [57in]	1015mm [40in]
C20639	GM Duramax 6.6L (L5P) *	2017 – 2020	1550mm [61in]	1190mm [47in]	100mm [4in]
C20721	GM Duramax 6.6L (L5P) *	2021 – 2026	1550mm [61in]	1190mm [47in]	100mm [4in]
C20638	GM Duramax 2.8L (LWN)	2016 – 2023	2970mm [117in]	N/A **	2540mm [100in]
	GM Duramax 3.0L (LM2/LZ0)	2019 – 2026			

* Chassis Cab Model Years may vary. See Application Guide for proper fitment.

**GM 2.8L & 3.0L application harness is a Y configuration.

***Extending wire lengths on Harness B is NOT permitted.

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Control Accessories

Toggle Switches

A momentary toggle switch with LED indicator is required to activate and program PH+ systems. An illuminated switch with protective toggle cover is the standard option. A latching toggle switch may be used with the PTO function for special applications such as theft prevention or protection of PTO equipment. All available options are listed below.



Part Number	C50344	C50274	C50345	C20702
Description	Momentary Toggle Switch, Illuminated	Momentary 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

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