

MOD-LH Series Light/Horn Enclosure Modification

Instruction Manual



PROVu Meter Shown in a PDA2301 Enclosure with MOD-LHRB1 Red Light/Horn and Button.

Meter & Enclosure Sold Separately. Assembly Required.

- Holes Drilled for Light/Horn and Button in Enclosure
- Single Lights in Red, Green, Yellow, Blue, or White Available
- Units with One of Five User Selectable Lights Available
- Three Color Light Stack with Red, Yellow, and Green Lights Available
- Light/Horn Powered from Meter or External Power Supply
- Light and Horn Can be Controlled Independently Using Separate Relays
- Light/Horn Programmable for Variety of Reset Functions, Including:
 - Silence Horn at Any Time
 - Light Stays on Until Alarm Clears
- Light Can Be Wired to Flash or Stay Steady On
- IP65 Rated
- 85 dB Horn
- Operates from -5 to 40°C (23 to 104°F)
- Control Station Accessory For Remote Operation of Light/Horn Button

Watch the Light/Horn Video



Click or scan













OVERVIEW

Transform a Precision Digital meters and controllers housed in an enclosure into an efficient display, control, and alarm system with the MOD-LH series. It provides a light/horn to boost visibility of alarm conditions, a button that connects to the meter's digital input to control or reset the alarms, and hole drilling on the enclosure for both the light/horn and button to make user installation and wiring quick and easy. Enclosure and meter are sold separately.

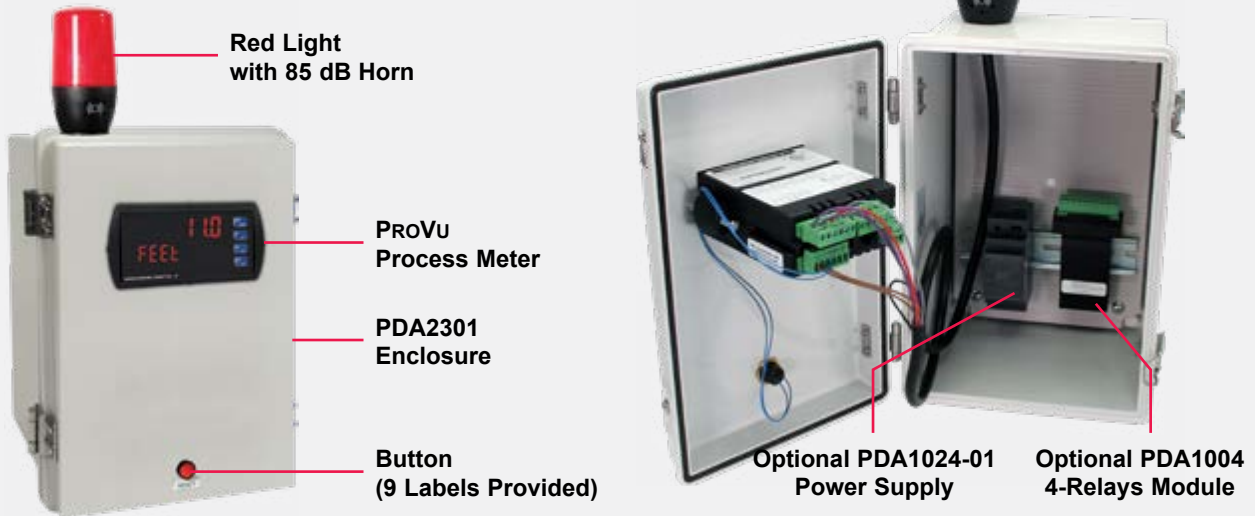
The MOD-LH series is compatible with a wide range of Precision Digital NEMA 4 and NEMA 4X enclosures as well as meters and controllers including the PROVu, Trident, Loop Leader, and ConsoliDator+ Series.

Overall, the MOD-LH series is a simple solution for Precision Digital meters and controllers that adds audible and visual ways to indicate critical alarms.

What's Included

  Light/Horn	  Button and 9 Labels	  Hole Drilling on Enclosure	  Meter	  Enclosure	  Installation and Wiring
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PROVu Meter Shown in a PDA2301 Enclosure with MOD-LHRB1 Red Light/Horn and Button.
Meter & Enclosure Sold Separately. Assembly Required.



Light/Horn

The light/horn is available in three different light configurations and each comes with a built-in 85 dB horn.

The first light option is a single color light in either red, green, yellow, blue, or white. The second light option is a user selectable light with five color options in either red, green, yellow, blue or white. Simply connect the appropriate wire to display the desired light color. The third option is a light stack with red, yellow, and green lights that can turn on independently.



The light can be wired to flash (not available on MOD-LH5CB1) or stay steady on. Both the light and horn can be controlled independently of each other using separate relays on the meter, and may be reset in a variety of ways based on the connected meter's relay reset capabilities.

Button

The button connects to the meter's digital input and it can be used to remotely control the light/horn such as resetting, acknowledging, or silencing an alarm. Nine (9) printed labels are provided to identify the button's action. Only one button is provided regardless of the number of meters in the enclosure.



(9) Printed Labels Provided

Control Capabilities

The light and horn can be controlled independently of each other using separate relays on the Precision Digital meter they are connected to. These relays can be programmed for automatic or manual reset action to satisfy a wide variety of audible and visual alarm applications.

Power Options

Precision Digital meters with an internal transmitter power supply can provide up to 200 mA to power the transmitter and other devices including the light/horn. See Specifications for details on power consumption.

If a meter connected to the light/horn does not have an internal transmitter power supply or more power is required than the meter provides, then consider the [PDA1024-01](#) 24 VDC transmitter power supply.

Hole Drilling Locations

All MOD-LH models provide hole drilling on the user selected enclosure for light/horn and button. See below for hole locations for both the light/horn and button.

Light/horn

The light/horn hole is on the top, back left corner of the enclosure.

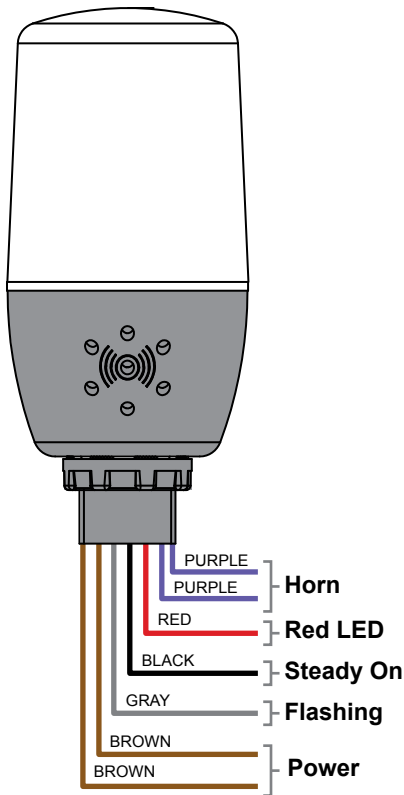


Button

The button is centered on the cover of the enclosure below the meter about an inch off the bottom of the cover except on the PDA1900, PDA2900, PDA3400, and PDA3900 series where it is mounted on the side of the enclosure.

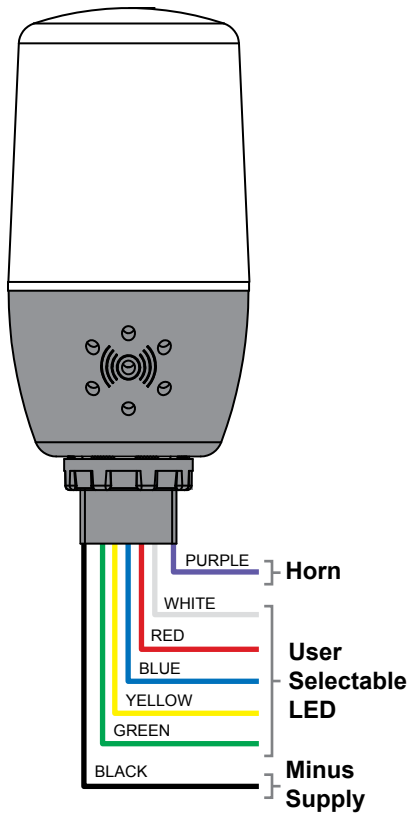


CONNECTIONS



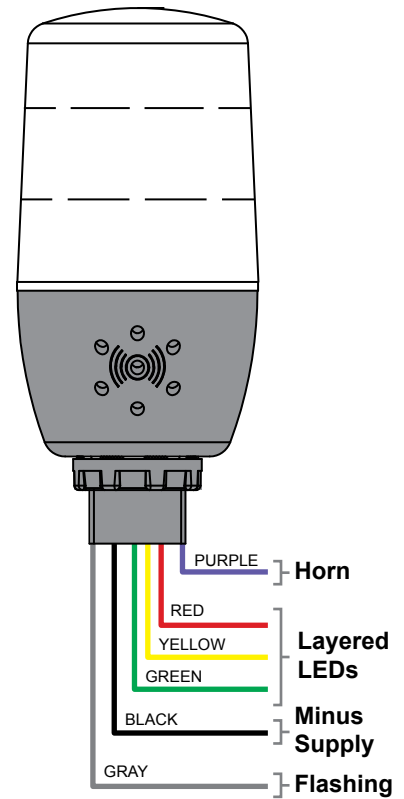
MOD-LH Models

Connections shown for a red light model. For other MOD-LH models, the red wire is the color of the light. Connect the red and black wires for a *Steady On* light and red and gray wires for *Flashing* light.



MOD-LH5CB1

Connect the LED color to the plus supply and the black wire to the minus supply to turn the LED on. Be aware of limitations for applications requiring different color lights for different alarm conditions.

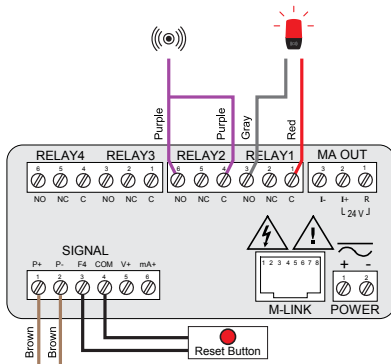


MOD-LH3LCB1-RYG

Connect the LED color to the plus supply for a *Steady On* light and LED color and gray wires to the plus supply for *Flashing* light. The black wire should be connected to the minus supply.

APPLICATIONS

There are a wide variety of ways these light/horn devices can be controlled by Precision Digital meter's relays to satisfy visual and audible alarm applications. Feel free to contact tech support to discuss your particular application. The following examples illustrate some typical applications.



PROVu meter with internal transmitter power supply connections shown

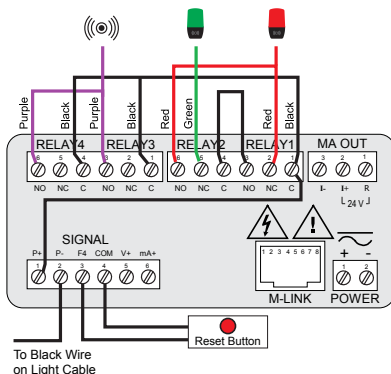
MOD-LH Models

The MOD-LH models are the simplest devices in the series and are made up of a single-color light and horn. A typical way to use the MOD-LH is to program the meter so that the horn can be silenced at any time via a button connected to the meter's digital input or via the F3 or Ack front panel button, and the light to reset automatically when the alarm clears:

Relay	Connected to	Default Reset Mode
1	Flashing Light ⁽¹⁾	Auto reset
2	Horn	Silence with Button at any time
3	User Device	As user desires
4	User Device	As user desires



1. Light can be wired to flash or stay steady on.

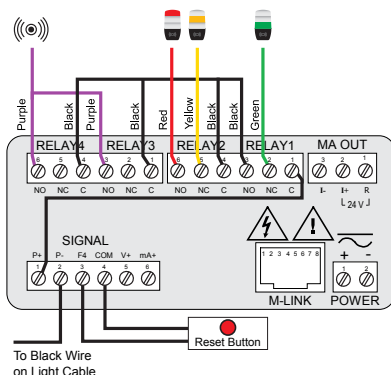


PROVu meter with internal transmitter power supply connections shown

MOD-LH5CB1

The MOD-LH5CB1 shows one color at a time and the light color (red, green, yellow, blue or white) is determined by which wires are connected to power through the meter's relays. A typical application for the MOD-LH5CB1 might involve lighting up the red light to indicate high and low alarms and the green light to indicate everything is OK using a Precision Digital meter's four internal relays:

Relay	Purpose	Range	Light/Horn	Action
1	Low alarm	< 199	Red light	Auto
3	Low alarm	< 199	Horn	Latch
2	All OK	200 to 500	Green light	Auto
2	High alarm	> 500	Red light	Auto
4	High alarm	> 500	Horn	Latch



PROVu meter with internal transmitter power supply connections shown

MOD-LH3LCB1-RYG

The MOD-LH3LCB1-RYG can light up red, yellow or green lights as determined by which wires are connected to power through the meter's relays. A typical application for the MOD-LH3LCB1-RYG (and the default factory setting) might involve lighting up the green light to indicate everything is OK, the yellow light to indicate a High warning, and the red light to indicate a High alarm. The Horn will also sound at both the Warning and High alarms and can be manually reset at any time via a button connected to the meter's digital input or via the F3 or Ack front panel button:

Relay	Purpose	Range	Light/Horn	Action
1	All OK	< 199	Green light	Auto
2	Warning	200 to 500	Yellow light	Auto
3	Warning	200 to 500	Horn	Latch
2	High alarm	> 500	Red light	Auto
4	High alarm	> 500	Horn	Latch



ACCESSORIES

Precision Digital offers accessories to complement any light/horn alarm system. These accessories include control stations, and a 24 VDC power supply to drive the light/horn.

PDA2360 Control Stations

The [PDA2360](#) series of plastic control stations are IP65, NEMA 4, 4X, and 13 rated, and provide a convenient way to remotely control the light/horn such as resetting an alarm, acknowledging an alarm, or silencing an alarm. The control stations come pre-assembled with knockouts on the top and bottom for convenient wiring and two mounting holes on the back for wall mounting.



Model	Description
PDA2361-A	Ack Button
PDA2361-R	Reset Button
PDA2361-Q	Silence Button

PDA1024-01 24 VDC Power Supply

The [PDA1024-01](#) 1.5 A, 24 VDC power supply can be used to power the light/horn when the connected meter does not have an internal transmitter power supply or when additional power is required. The PDA1024-01 is DIN rail mountable and is a UL recognized component.



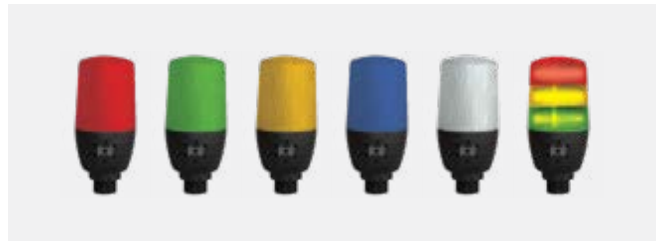
Model	Description
PDA1024-01	24 VDC Transmitter Power Supply
PDA1002	6" DIN Rail Mounting Kit

CUSTOM INSTALLATIONS

MOD-LH individual components are also sold separately for custom user installations.

PDA-LH Light/Horn Accessory

The [PDA-LH](#) series light/horn accessory can be connected to select Precision Digital meters to provide better visibility and control of alarm conditions. It is available in three different light configurations and each comes with a built-in 85 dB horn.



Model	Description
PDA-LHR	Red Light/Horn
PDA-LHG	Green Light/Horn
PDA-LHY	Yellow Light/Horn
PDA-LHB	Blue Light/Horn
PDA-LHW	White Light/Horn
PDA-LH5C	Light/Horn with User Choice of Red, Green, Yellow, Blue or White Light
PDA-LH3LC-RYG	Light Stack/Horn with Red, Yellow, Green Lights

PDA-BUTTON Momentary Pushbutton

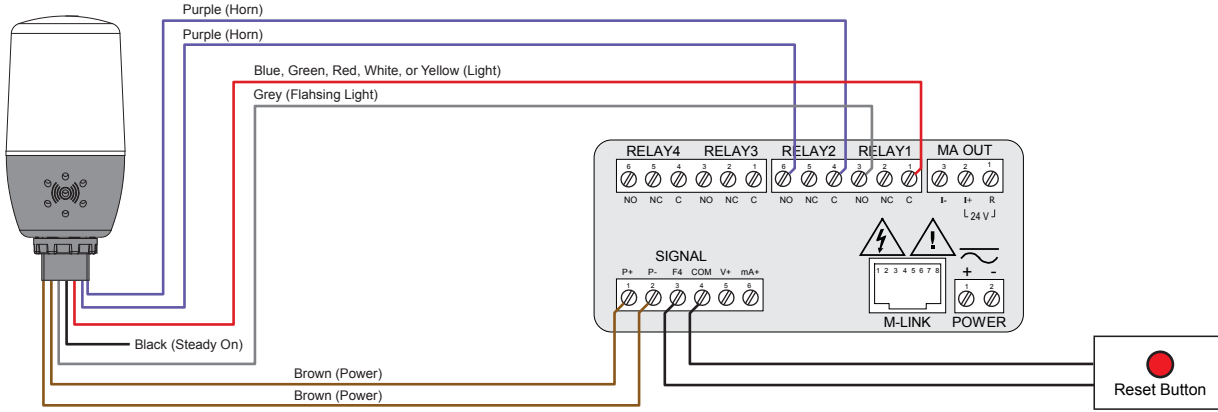
The [PDA-BUTTON](#) is an IP67 fully sealed momentary pushbutton that can be used to silence the horn or turn off the light. The pushbutton is available in red, black, or green. These fully sealed pushbuttons are SPST-NO so they will satisfy a variety of circuit requirements.



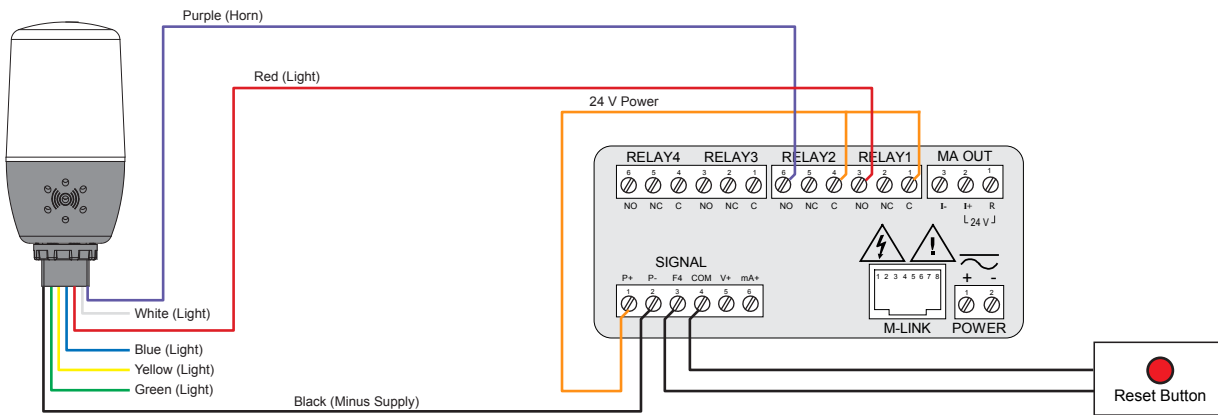
Model	Description
PDA-BUTTON1R	Red Momentary Pushbutton
PDA-BUTTON1G	Green Momentary Pushbutton
PDA-BUTTON1B	Black Momentary Pushbutton

WIRING DIAGRAMS

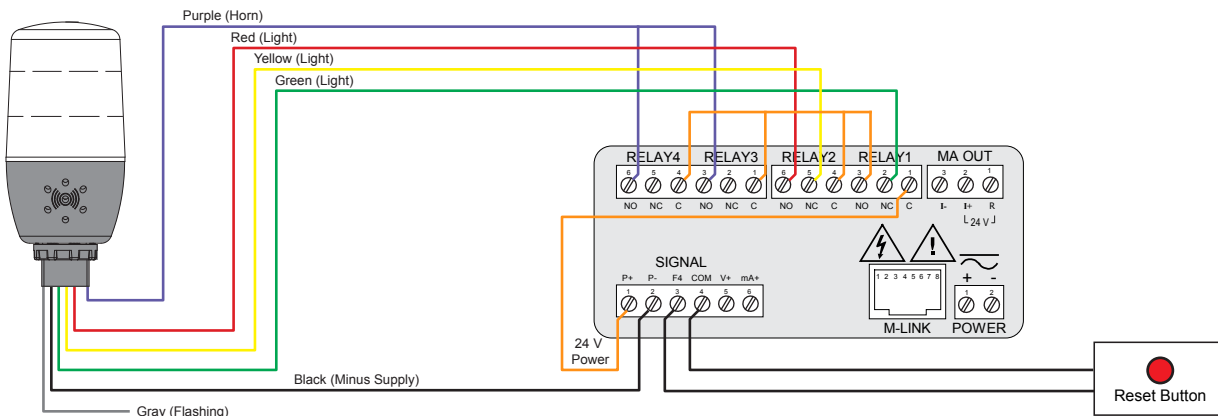
PD6000 & PD7000 ProVu Series Connections (Internal Power)



MOD-LH Models Using Internal Power Supply

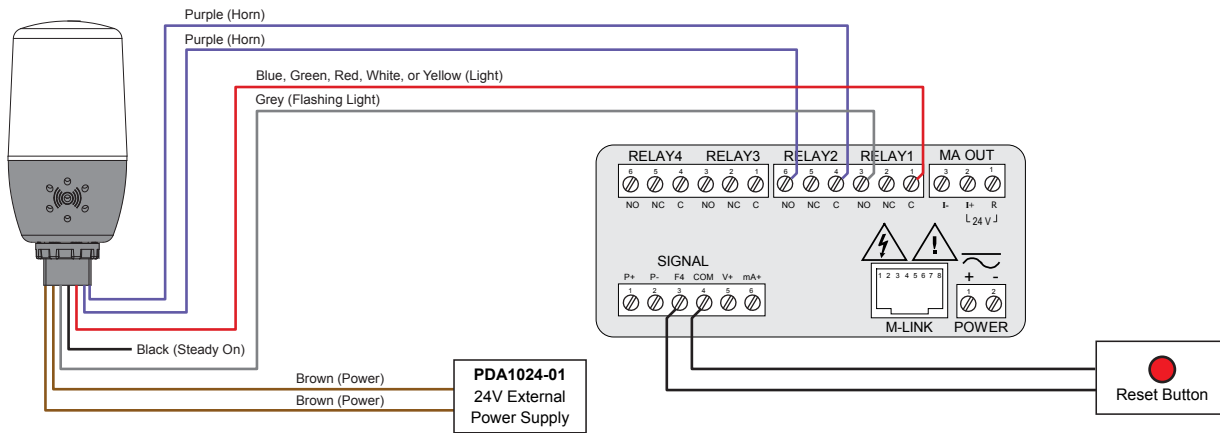


MOD-LH5CB1 Models Using Internal Power Supply

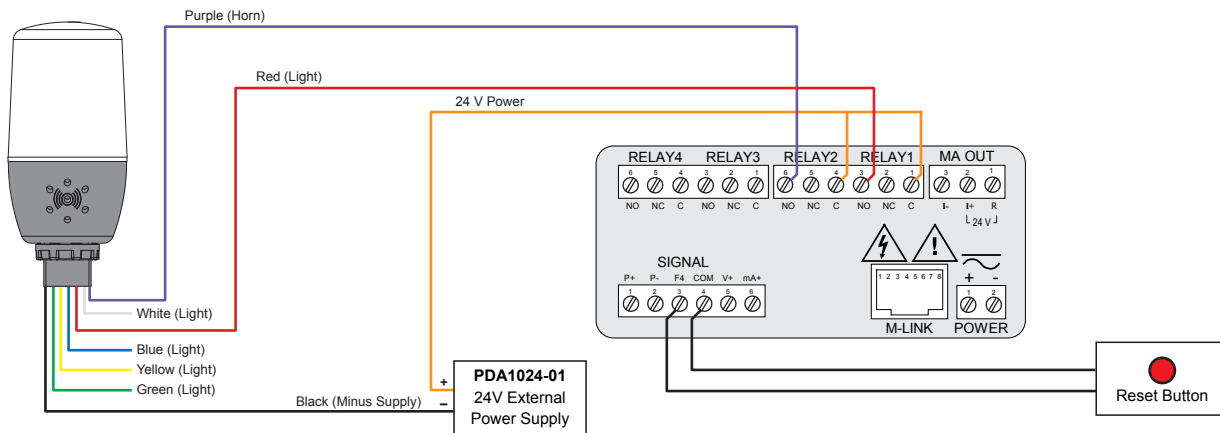


MOD-LH3LCB1-RYG Models Using Internal Power Supply

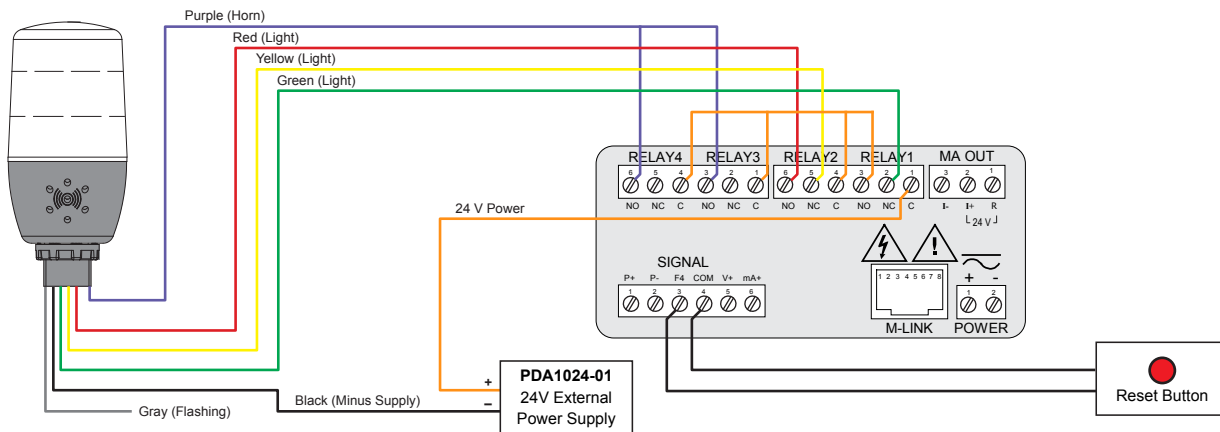
PD6000 & PD7000 ProVu Series Connections (External Power)



MOD-LH Models Using External Power Supply (PDA1024-01)

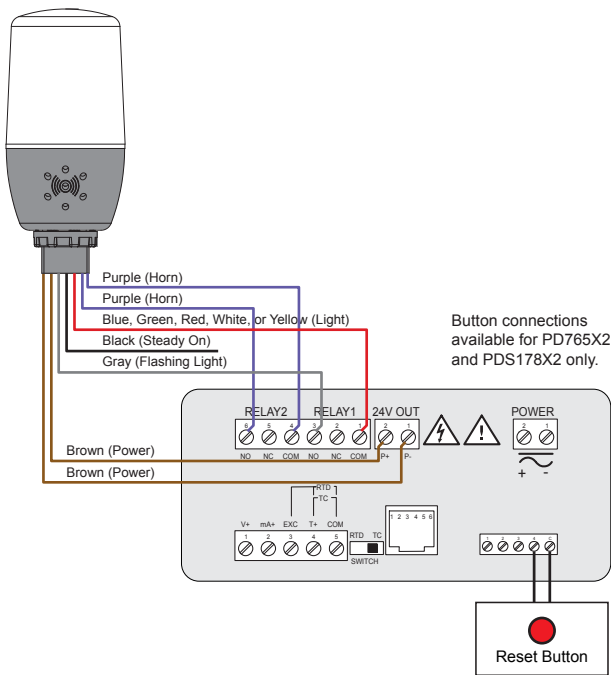


MOD-LH5CB1 Models Using External Power Supply (PDA1024-01)

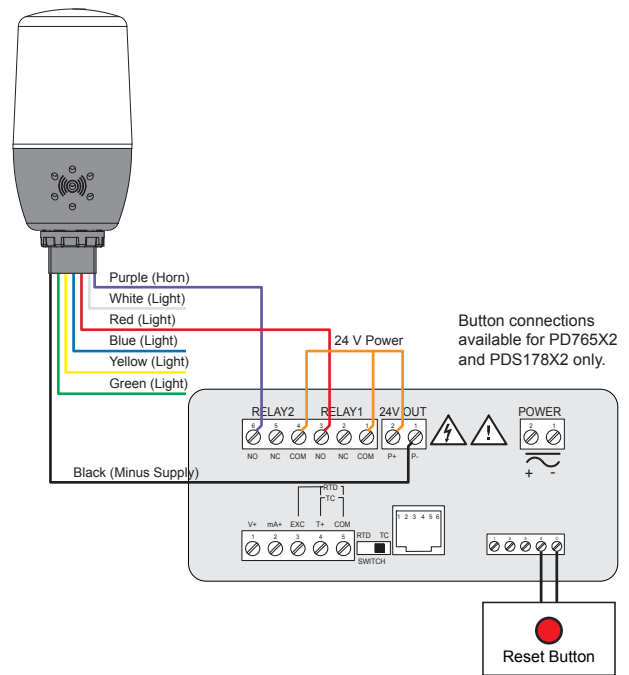


MOD-LH3LCB1-RYG Models Using External Power Supply (PDA1024-01)

PD765 Trident X2 & PDS178X2 Connections (Internal Power)

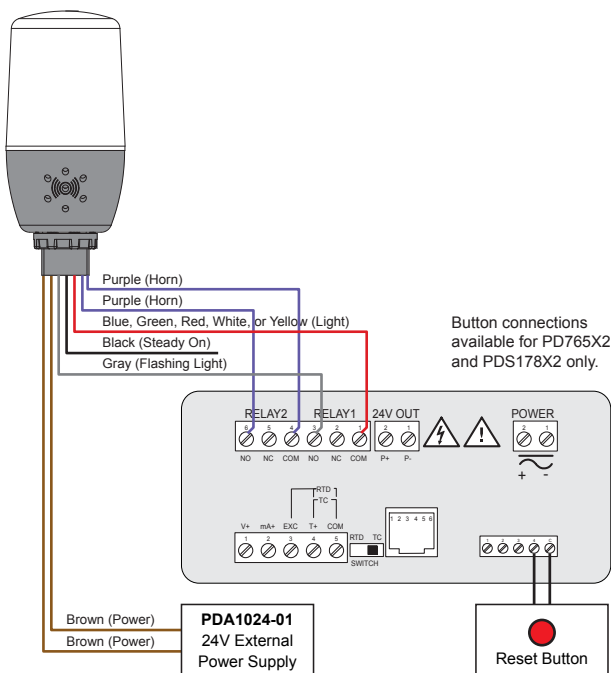


MOD-LH Models Using Internal Power Supply

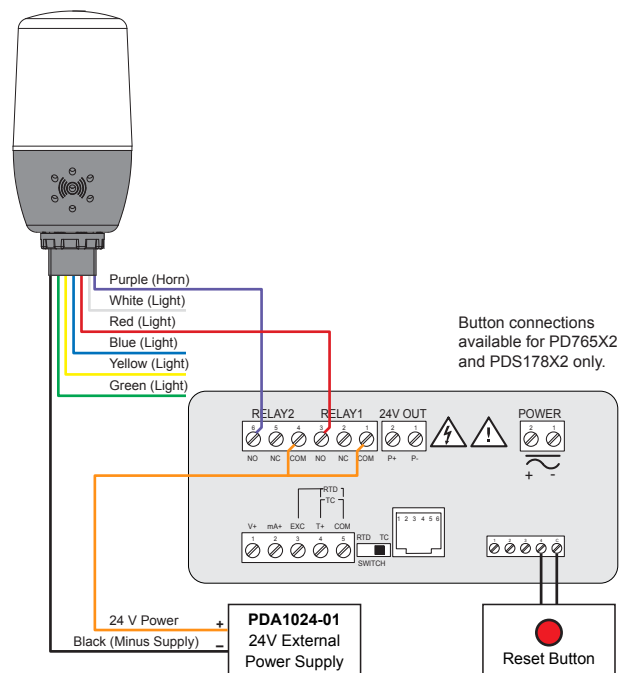


MOD-LH5CB1 Models Using Internal Power Supply

PD765 Trident X2 & PDS178X2 Connections (External Power)

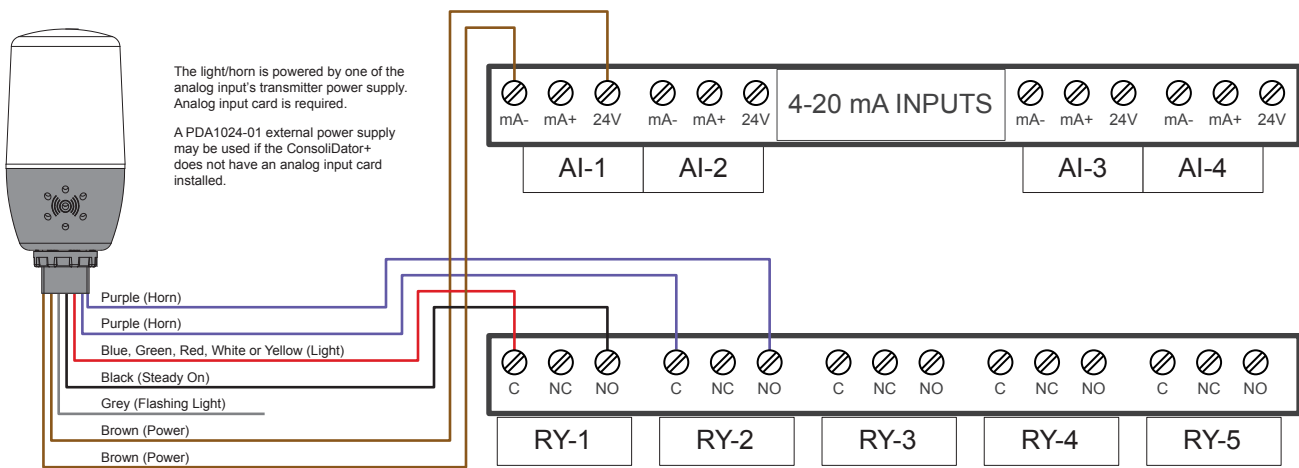


MOD-LH Models Using External Power Supply (PDA1024-01)

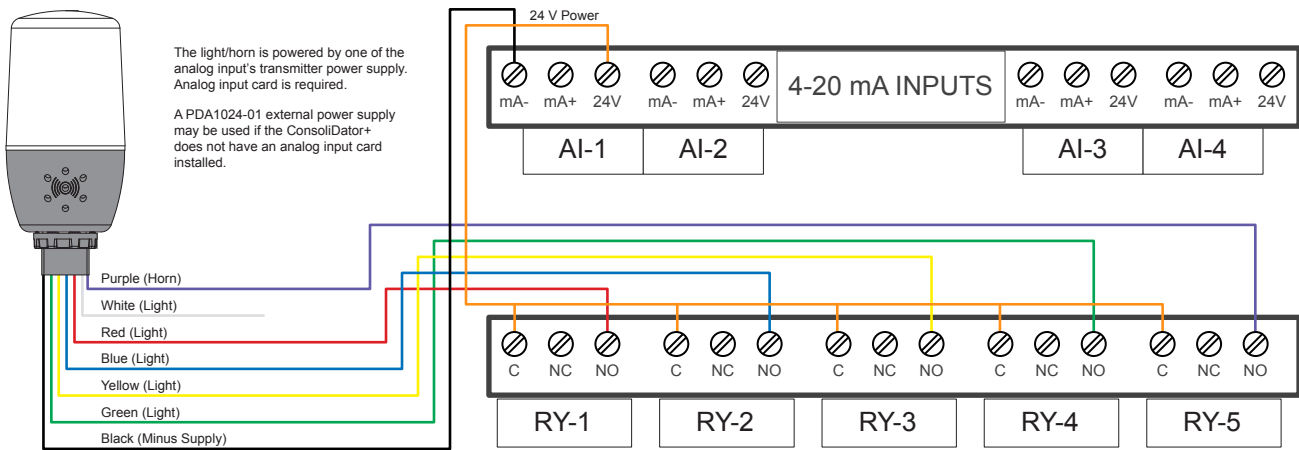


MOD-LH5CB1 Models Using External Power Supply (PDA1024-01)

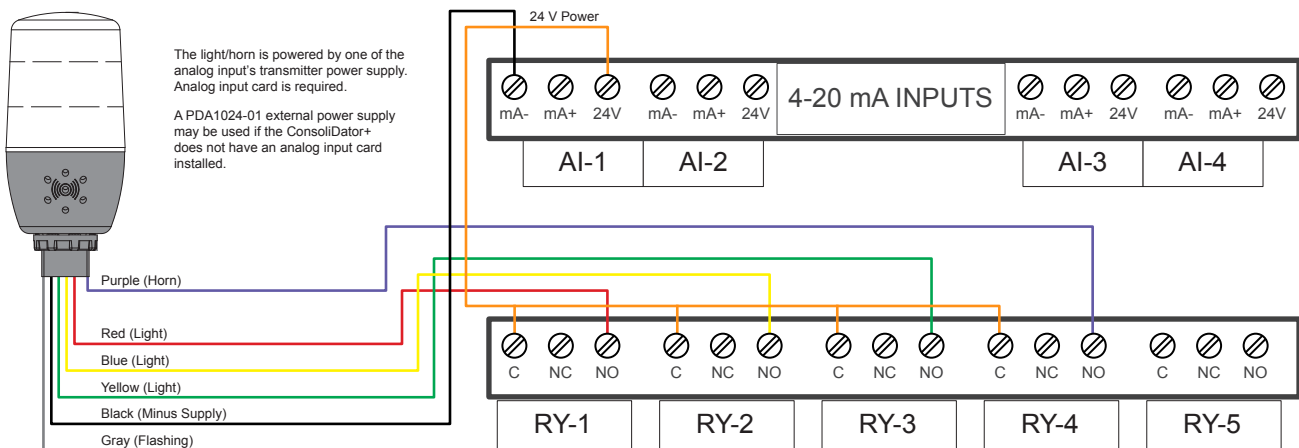
PD9000 ConsoliDator+ Series Connections



MOD-LH Using Internal Power Supply

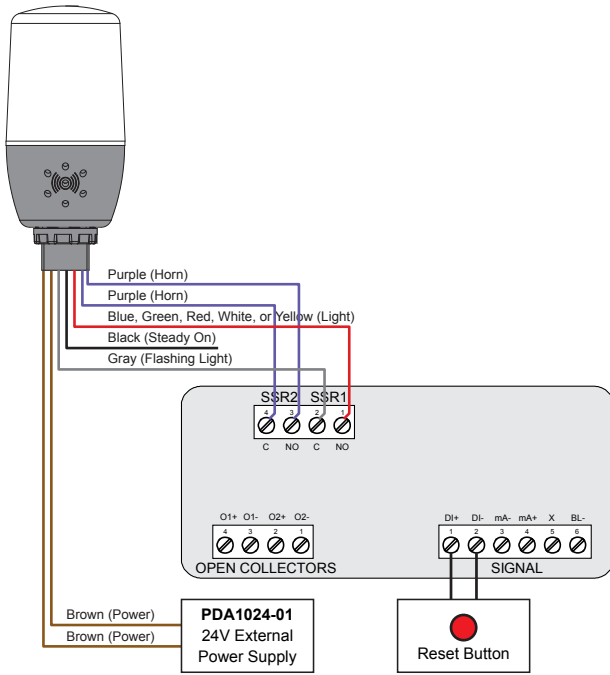


MOD-LH5C Using Internal Power Supply

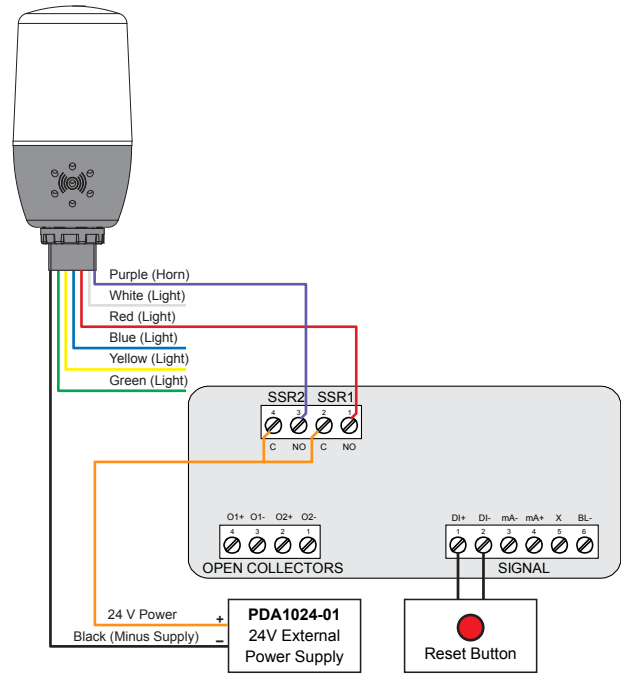


MOD-LH3LC-RYG Using Internal Power Supply

PD6600 Loop Leader Series Connections



MOD-LH Using External Power Supply (PDA1024-01)



MOD-LH5CB1 Using External Power Supply (PDA1024-01)

ENCLOSURE COMPATIBILITY

Most Precision Digital enclosures are compatible with the MOD-LH modification. See available enclosures below.

⚠ IMPORTANT

If a PDA1024-01 power supply is required to power the light/horn, the following enclosures do not have enough interior space to host one:

- PDA2601, PDA2601-V, PDA2602, PDA2602-V, PDA2603, PDA2603-1, PDA2603-2, PDA2603-B, PDA2622
- PDA2701, PDA2701-V, PDA2702, PDA2702-V, PDA2703, PDA2703-1, PDA2703-2, PDA2603-B, PDA2722
- All PDA2800 models
- All PDA3400 models



PDA1900/3900 Plastic NEMA 4X & PDA2900 Steel NEMA 4

The MOD-LH modification is compatible with all ConsoliDator+ enclosures.



PDA2300 Economical Plastic NEMA 4X

The MOD-LH modification is compatible with all PDA2300 series enclosures.



PDA2600 Stainless Steel NEMA 4X

The MOD-LH modification is compatible with all PDA2600 series enclosures.



PDA2700 Steel NEMA 4

The MOD-LH modification is compatible with all PDA2700 series enclosures.



PDA2800 Smallest Footprint Plastic NEMA 4X

The MOD-LH modification is compatible with all PDA2800 series enclosures except PDA2801 and PDA2812.



PDA3400 Internally Mounted Plastic NEMA 4X

The MOD-LH modification is compatible with all PDA3400 series enclosures except the PDA3411, PDA3412, PDA3414.

Enclosures shown with a Meter/Controller and MOD-LHRB1 Red Light/Horn and Button.
Meter/Controller, Enclosure, and MOD-LHRB1 are Sold Separately. Assembly Required.

SPECIFICATIONS

General

Installation	Holes drilled in enclosure for light/horn and button. User installation and wiring required.
Environmental	Operating Temperature Range: -5 to 40°C (23 to 104°F)
Warranty	1 year parts and labor. See Warranty Information and Terms & Conditions on www.predig.com for complete details.

Light/Horn

Light/Horn Independence	Light and horn can be controlled independently via separate relays.
Rating	IP65
Connection	M22
Hole Size	0.875" (22 mm)
Cable Length	3.28 feet (1 meter)
Light Colors	MOD-LHRB1: Red; MOD-LHGB1: Green; MOD-LHYB1: Yellow; MOD-LHBB1: Blue; MOD-LHWB1: White; MOD-LH5CB1: User selectable: red, green, yellow, blue, white; MOD-LH3LCB1-RYG: Light stack with red, yellow, green lights (consult factory for other colors).
Light Action	Can be wired to flash or stay steady on (Flashing not available on PDA-LH5C)
Horn	85 dB
Overall Dimensions	2.2" x 4.8" X 2.2" (55 x 122 x 55 mm) (W x H x D)
Weight	8 oz (227 g)

Button

Rating	IP67, NEMA 4X
Connection	M16
Hole Size	0.630" (16 mm)
Action	Wire to the meter's digital input to reset, acknowledge, or silence an alarm.
Labels	Nine (9) labels provided: RESET, BATCH, ACK, TARE, SILENCE, STOP, START, PAUSE, START/STOP

Power

Power Required	24 VDC
Transmitter Power Supply	Precision Digital meters with an internal transmitter power supply can supply up to 200 mA to power the transmitter and other devices including the MOD-LH series light/horn. The following tables illustrate how much power is required to power various light colors and the horn.

MOD-LH and MOD-LH5CB1 Models

Color	Power Required	Color	Power Required
Red	17 mA	Blue	15 mA
Green	15 mA	White	42 mA
Yellow	23 mA	Horn	20 mA

Example:

17 mA (Red Light) + 20 mA (Horn) = 37 mA
total current needed from the 200 mA supply.
Available current = 163 mA

MOD-LH3LCB1-RYG Model

Color	Power Required	Color	Power Required
Red	34 mA	Yellow	33 mA
Green	29 mA	Horn	38 mA

Example:

33 mA (Yellow Light) + 38 mA (Horn) = 71 mA
total current needed from the 200 mA supply.
Available current = 139 mA

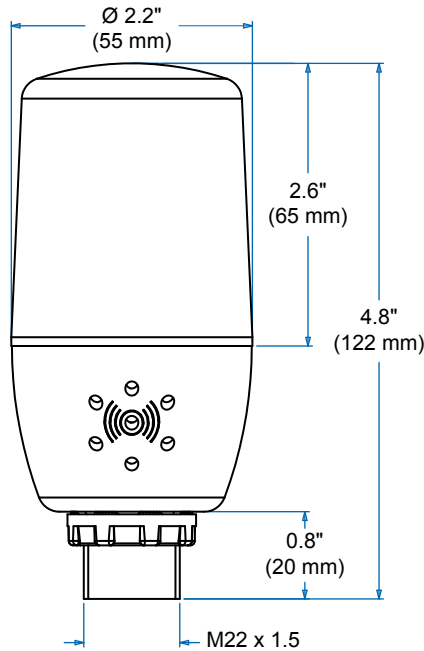
External Power Supply	If a meter connected to the light/horn does not have an internal transmitter power supply or more power is required than the meter provides, then consider the PDA1024-01 24 VDC transmitter power supply.
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METER COMPATIBILITY

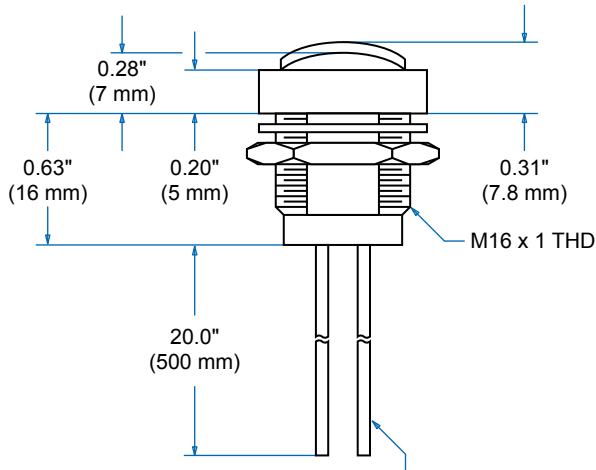
Series	Models	MOD-LH	MOD-LH5CB1	MOD-LH3LCB1-RYG	Light/Horn Powered by Meter	Light/Horn Requires External Power	Reset Capabilities
ProVu	PD6000, PD6001, PD6080, PD6081, PD6200, PD6210, PD6300, PD6310, PD6310-WM	•	•	•	•		•
	PD6060, PD6088, PD6089, PD6100, PD6262, PD6363, PD6400, PD7000	•	•	•		•	•
Trident X2 / PDS178X2	PD765-6X, PD765-7X, PDS178X2	•	•		•		•
Consolidator+	PD9000	•	•	•	•		•
Loop Leader	PD6602, PD6603, PD6604, PD6622, PD6624	•	•			•	•

DIMENSIONS

Light/Horn



Button



2 x 24 AWG Type 44 stranded primary lead wire with blue PVF insulation per MIL-W-81044 rated at -65 to 150°C plain, unstripped ends

⚠ WARNING

Cancer and Reproductive Harm - www.P65Warnings.ca.gov

ORDERING INFORMATION

Light/Horn Modification

Model	Description
MOD-LHRB1	Red Light/Horn and Button with Holes Drilled in Enclosure
MOD-LHGB1	Green Light/Horn and Button with Holes Drilled in Enclosure
MOD-LHYB1	Yellow Light/Horn and Button with Holes Drilled in Enclosure
MOD-LHBB1	Blue Light/Horn and Button with Holes Drilled in Enclosure
MOD-LHWB1	White Light/Horn and Button with Holes Drilled in Enclosure
MOD-LH5CB1	Light/Horn with User Choice of Red, Green, Yellow, Blue or White Light, Button, and Holes Drilled in Enclosure
MOD-LH3LCB1-RYG	Light Stack/Horn with Red, Yellow, Green Lights, Button, and Holes Drilled in Enclosure

Notes

- All MOD-LH models provide a light/horn, button, and hole drilling on enclosure for light/horn and button. User installation and wiring is required. Meter and enclosure are sold separately. The light/horn hole is located on the back left corner of the enclosure and the button hole is centered on the cover of the enclosure about an inch off the bottom of the cover. The button hole location for PDA1900, PDA2900, PDA3400, and PDA3900 series is on the side of the enclosure. Only one button is provided regardless of the number of meters in the enclosure.

Accessories

General Accessories	
Model	Description
PDA1002	6" DIN Rail Mounting Kit
PDA1024-01	24 VDC Power Supply for DIN Rail

PDA2360 Series Control Stations	
Model	Description
PDA2361-A	Ack Button
PDA2361-R	Reset Button
PDA2361-Q	Silence Button

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