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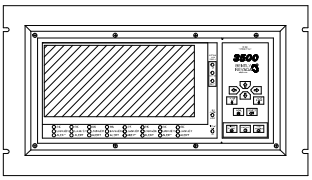
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Find the *GE / Bently Nevada 128275-01* at our website: *Click HERE*

Specifications and Ordering Information

3500/93 System Display



NRTL/C

Description

The 3500/93 System Display is designed to meet the requirements of American Petroleum Institute Standard 670 and provide local or remote visual indication of all 3500 Machinery Protection System information residing in the rack including:

- System Event List
- Alarm Event Lists
- All Channel, Monitor, Relay Module, Keyphasor? Module or Tachometer Module data

The 3500/93 System Display is configured using 3500 Rack Configuration Software. The display can be mounted in any of four ways:

1. **Face Mounting** – display installs directly over the front panel of any full size 3500 rack using a special hinged support. This permits access to the rack's buffered output connectors and user-interface buttons and switches without disconnecting or disabling the display.

   Note: For this mounting option only, the Display Interface Module (DIM) must be installed in slot 15 (right-most slot) of the rack. The Face Mounting option is not compatible with the 3500 Mini-rack.

2. **19-inch EIA Rack Mounting** – display is mounted on 19-inch EIA rails and located up to 100 feet away from the 3500 System. (Up to 4000 feet away from the 3500 System when using the External Power Supply).

3. **Panel Mounting** – display is mounted in a panel cutout located in the same cabinet or up to 100 feet away from the 3500 System. (Up to 4000 feet away from the 3500 System when using the External Power Supply).

4. **Independent Mounting** – display is mounted flush against a wall or panel and located up to 100 feet away from the 3500 System. (Up to 4000 feet away from the 3500 System when using the External Power Supply).

Up to two displays can be connected to each 3500 rack and each display requires one empty 3500 rack slot for insertion of its corresponding DIM. When the display is not face-mounted, the cable connection between the DIM and the Display can be made from the front of the 3500 rack or from the I/O module at the rear of the rack.

Applications that require a cable longer than 100 feet must use the External Power Supply and Cable Adapter. Applications that use the back lighted Display Unit must use the External Power Supply. There are two External Power Supplies: one for connection to 115 Vac and the other for connection to 230 Vac.

The External Power/Terminal Strip Mounting Kit eases installation of External Power Supplies. The External Power/Terminal Strip Mounting Kit is designed to fit in the Independent Mount Housing. The Kit streamlines installation of an External Power Supply in both the Independent Mount Housing or a user supplied housing.

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Specifications

Inputs

Power Consumption: 15.5 watt maximum (Display Unit & Display Interface Module); 5.6 watt maximum (-01 Display Unit); 12.0 watt maximum (-02 Display Unit).

Data Types: Collects data, such as current values and current alarm status, via a high speed internal network.

Outputs

Display Interface Module

OK LED: Indicates when the Display Interface Module is operating properly.

TX/RX LED: Indicates when the Display Interface Module is communicating with other modules in the 3500 rack.

Display Unit

Unit OK LED: Indicates when the Display Unit is operating properly.

Rack OK LED: Indicates rack is in OK status, all channels are OK.

Rack Alert LED: Indicates rack is in Alert status, at least one channel is in Alert.

Rack Danger LED: Indicates rack is in Danger status, at least one channel is in Danger.

OK LED (8): Indicates displayed channel(s) above the LED is in OK status.

Alert LED (8): Indicates displayed channel(s) above the LED is in Alert status.

Danger LED (8): Indicates displayed channel(s) above the LED is in Danger status.

New Alarm LED: Indicates new alarm has been detected since the last acknowledgment.

Reflective 640 x 200 Dots LCD: Displays data in graphical and text format. LCD module is reflective FSTN dot matrix type without backlight. **Ambient white light is required for acceptable visibility.** Best visibility is under indirect sunlight conditions, LCD visibility decreases with corresponding decrease in ambient light level. LCD exhibits acceptable visibility under normal office lighting levels.

Transflective 640x200 Dots LCD: Displays data in graphical and text format. LCD module is transflective FSTN dot matrix type with white electroluminescent backlight.

Communication between the Display Unit and the Display Interface Module

Hardware: RS422 Interface.

Protocol: Supports Bently Nevada proprietary protocol and Modbus® protocol based on AEG PI-MBUS-300 Rev. E Reference Manual.

Channel update rate: 1 second, typical.

Environmental Limits

Display Interface Module & I/O Module

Operating Temperature: -30?C to +65?C (-22?F to +150?F).

Storage Temperature: -40?C to +85?C (-40?F to +185?F).

Humidity: 95%, noncondensing.

Display Unit

Operating Temperature: -20?C to 65?C (-4?F to 149?F).

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Storage Temperature:	-30? C to 80? C (-22? F to 176? F).
Humidity:	95%, noncondensing.

CE Mark Directives

EMC Directives:

EN50081-2:	Radiated Emissions EN 55011, Class A Conducted Emissions EN 55011, Class A
EN50082-2:	Electrostatic Discharge EN 61000-4-2, Criteria B Radiated Susceptibility ENV 50140, Criteria A Conducted Susceptibility ENV 50141, Criteria A Electrical Fast Transient EN 61000-4-4, Criteria B Surge Capability EN 61000-4-5, Criteria B Magnetic Field EN 61000-4-8, Criteria A Power Supply Dip EN 61000-4-11, Criteria B Radio Telephone ENV 50204, Criteria B

Low Voltage Directives:

EN 61010-1	Safety Requirements

Hazardous Area Approvals

CSA/NRTL/C:	Class I, Division 2, Groups A through D.

Physical

Display Interface Module

Dimensions (Height x Width x Depth):	241.3 mm x 24.4 mm x 241.8 mm (9.50 in x 0.96 in x 9.52 in).
Weight:	0.82 kg (1.82 lb.).

Display Interface I/O Module

Dimensions (Height x Width x Depth):	241.3 mm x 24.4 mm x 99.1 mm (9.50 in x 0.96 in x 3.90 in).
Weight:	0.38 kg (0.84 lb.).

Display Unit

Dimensions (Height x Width x Depth):	203.2 mm x 412.8 mm x 31.2 mm (8.00 in x 16.25 in x 1.23 in).
Weight:	2.1 kg (4.6 lb.).

Rack Space Requirements

Main Board:	1 full-height front slot.
I/O Modules:	1 full-height rear slot.

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Ordering Information

3500/93-AXX-BXX-CXX-DXX
System Display
Option Descriptions

A: Mounting Option:	**0 1**	System Face Mount (DIM must be installed in slot 15, I/O module not included)
	0 2	19-inch EIA Rack Mount (I/O module included)
	0 3	Panel Mount (I/O module included)
	0 4	Independent Mount (Stainless Steel Housing, I/O module included)
	0 5	Back-lighted System Face Mount (DIM must be installed in slot 15, I/O module included, external power supply required)
	0 6	Back-lighted 19-inch EIA Rack Mount (I/O module included, external power supply required)
	0 7	Back-lighted Panel Mount (I/O module included, external power supply required)
	0 8	Back-lighted Independent Mount (Stainless Steel Housing, I/O module included, external power supply required)
B: Mounting Distance/Cable Type:	**0 0**	No Cable Required
	0 1	10 Foot (3 metres) Cable (PVC)
	0 2	50 Foot (15.24 metres) Cable (PVC)
	0 3	50 Foot (15.24 metres) Cable (Teflon®)
	0 4	100 Foot (30.5 metres) Cable (PVC)
	0 5	100 Foot (30.5 metres) Cable (Teflon?)
C: External Power Supply:	**0 0**	None
	0 1	115 Volt AC
	0 2	230 Volt AC
D: Agency Approval Option:	**0 0**	None
	0 1	CSA/NRTL/C

Accessories and Spares

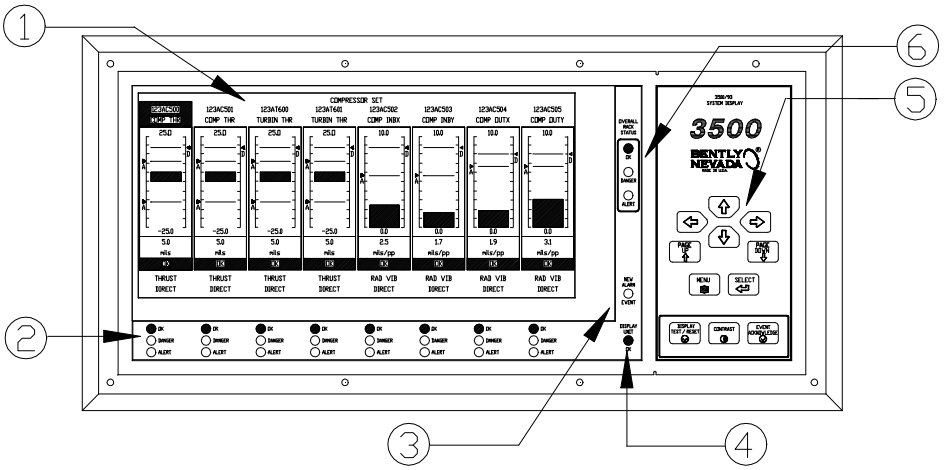
135785-01	3500/93 Display Unit, non back-lighted
135785-02	3500/93 Display Unit, back-lighted
137412-01	3500/93 Manual
135799-01	3500/93 Display Interface Module
135799-02	3500/93 Display Interface Module (use with A05 option only)
135813-01	3500/93 Display Interface I/O Module
136634-0010-01	10 Foot (3 metres) Cable (PVC)
136634-0050-01	50 Foot (15 metres) Cable (PVC)
136634-0050-02	50 Foot (15 metres) Cable (Teflon?)
136634-0100-01	100 Foot (30 metres) Cable (PVC)
136634-0100-02	100 Foot (30 metres) Cable (Teflon?)
130121-02-01	500 Foot (152 metres) Extension Cable (PVC)
130121-02-02	500 Foot (152 metres) Extension Cable (Teflon?)
02200271	External Power Supply for 115 Vac
02200272	External Power Supply for 230 Vac
138227-01	Cable Adapter
146085-01	Power Cable
137224-01	System Mounting Assembly (sheet metal for A01 & A05 options)
04309007	4-40 X 0.63 Phillips head screw for System Mounting Assembly, 4 are required

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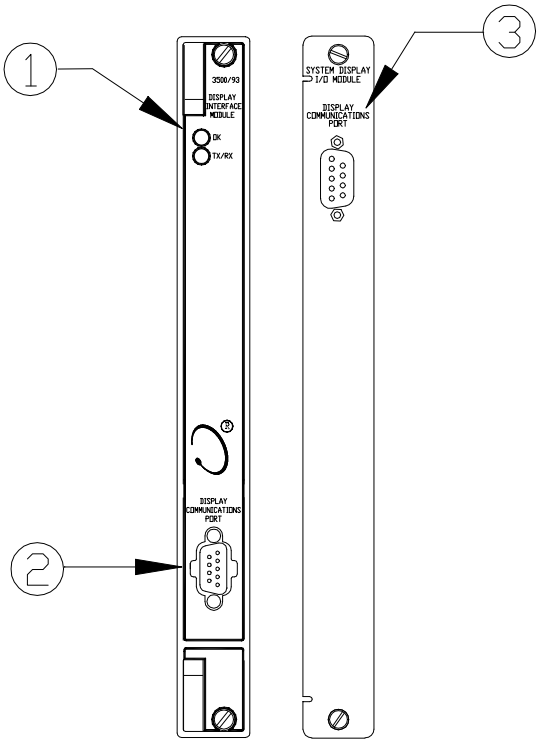
04344178	10-32 x 0.37 Phillips head screw for System Mounting Assembly, 4 are required
136978-01	19" EIA Rack Mounting Adaptor (sheet metal for A02 & A06 options)
136977-01	Panel Mounting Clamp (sheet metal for A03 & A07 options)
136976-01	NEMA Gasket
04300148	10-32 x 1.25 Phillips head screw for Panel Mounting Adaptor, 4 are required
137835-01	Independent Mounting Housing (sheet metal for A04 & A08 options)
138228-01	**External Power/Terminal Strip Mounting Kit includes:**
138227-01	Cable Adapter
137833-01	Mounting Plate
01660111	Terminal Strip
04310447	6-32 x 0.37 Phillips head screw for Terminal Strip, 2 are required.
04330900	4-40 x 0.18 Phillips pan head screw for Power Supply, 4 are required.
04344178	10-32 x 0.37 Phillips pan head screw for Mounting Plate, 4 are required.

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Figures and Tables



1) LCD
2) Channel Status LEDs
3) New Alarm Event LED
4) Display Unit Status LED
5) Keyboard Control Panel
6) Rack Status LEDs



1) Display Interface I/O Module
2) Display Communications Port
3) Display Interface I/O Module

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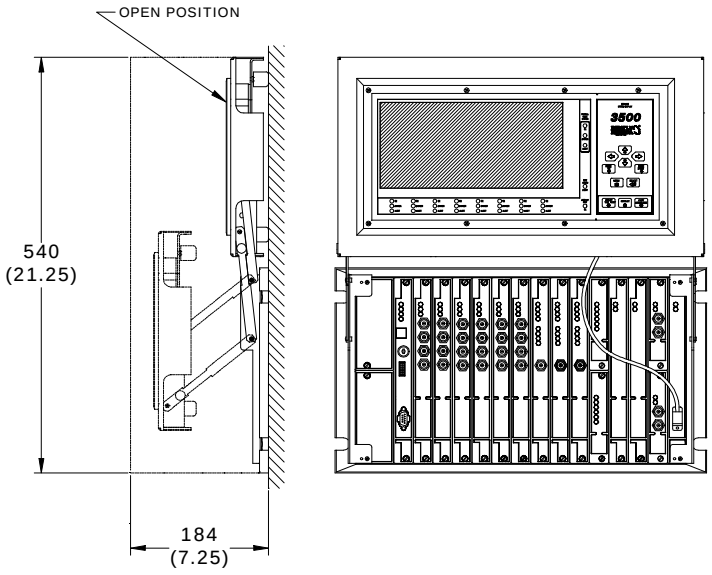


Figure 1: System Face Mount Option
Dimensions are in millimeters (inches)

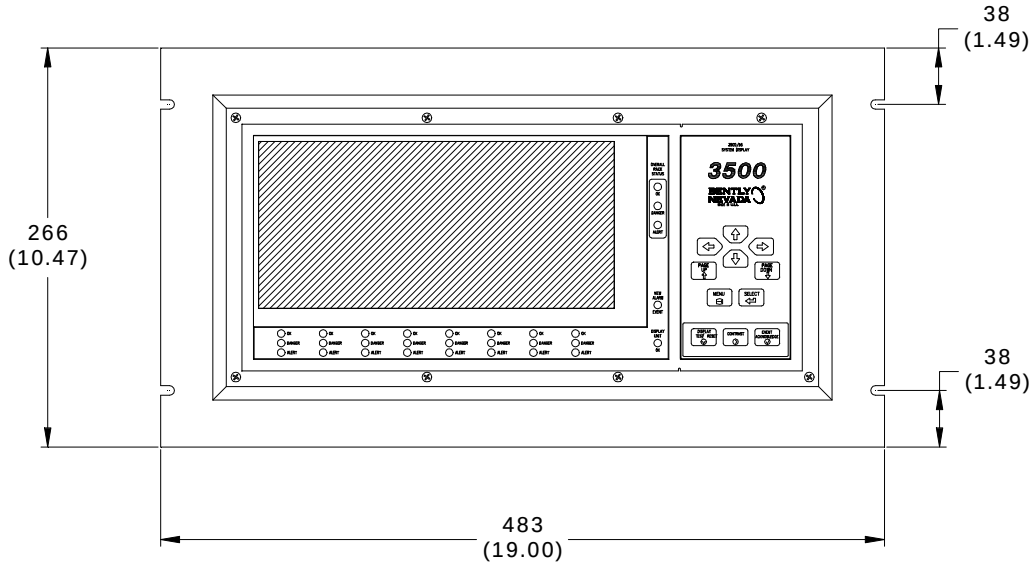


Figure 2: 19-Inch EIA Rack Mount Option
Dimensions are in millimeters (inches)

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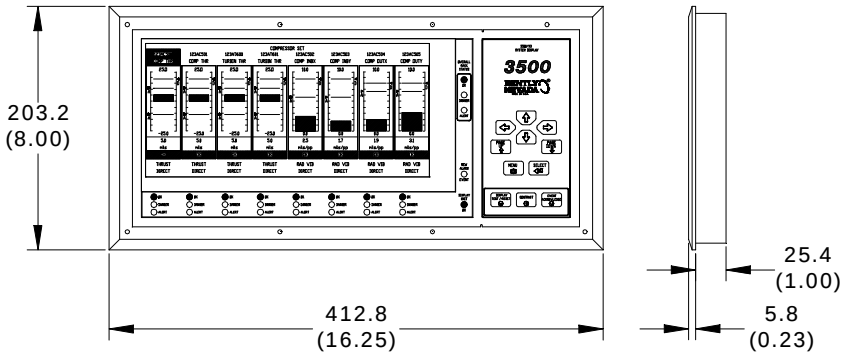


Figure 3: Display Unit Outline Dimensions
Dimensions are in millimeters (inches)

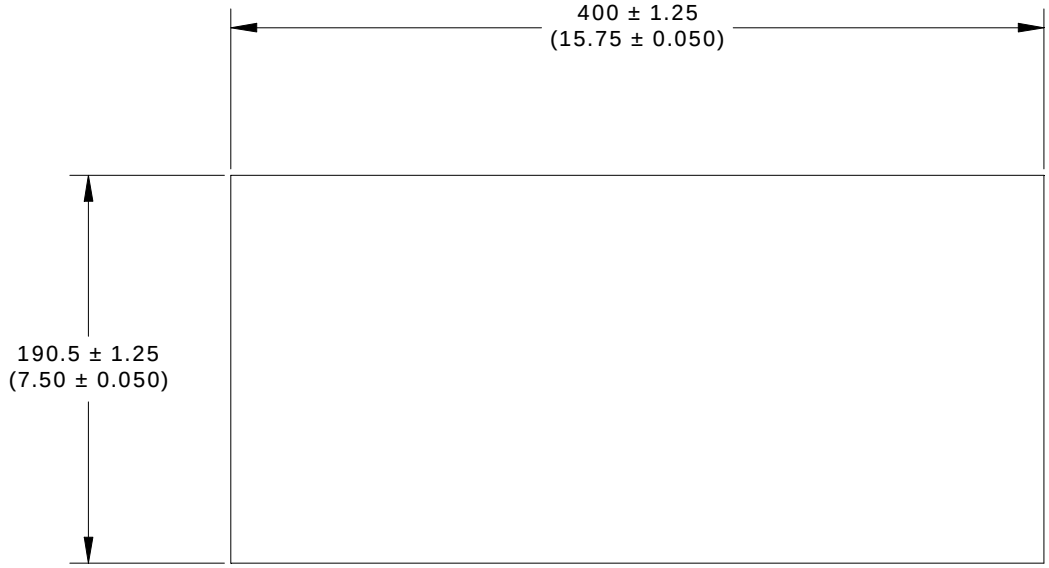


Figure 4: Panel Cutout Dimensions For Panel Mount Option
Dimensions are in millimeters (inches)

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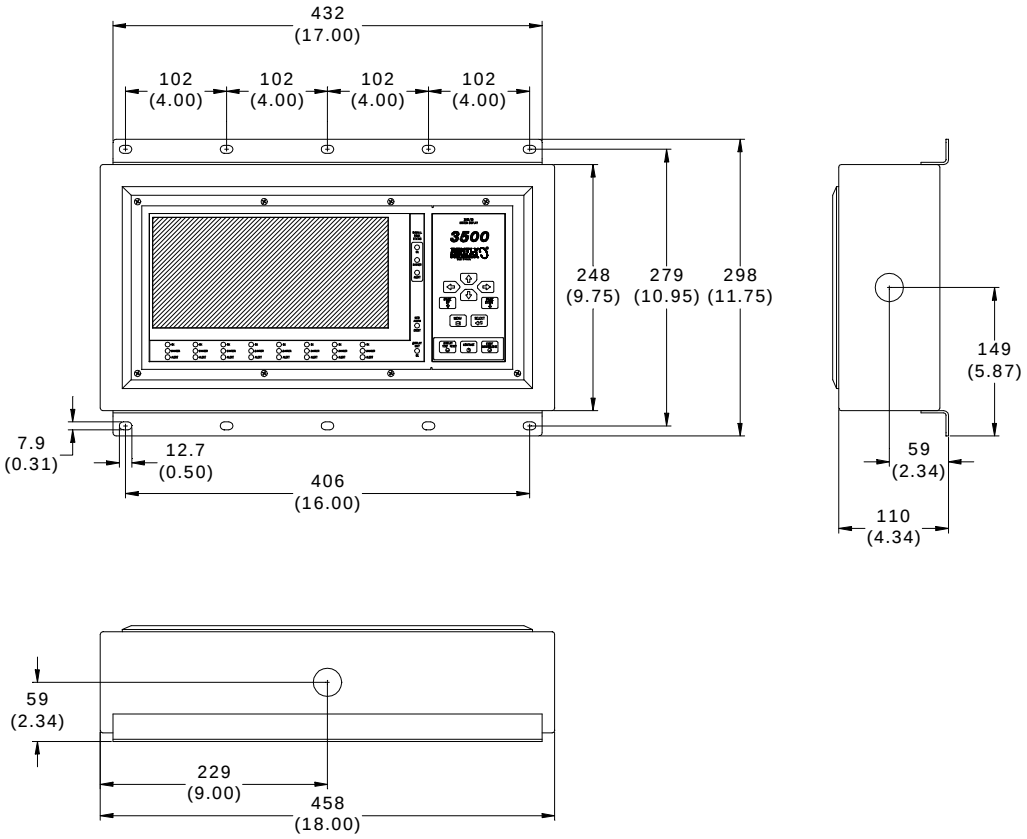


Figure 5: Independent Mount Option
Dimensions are in millimeters (inches)

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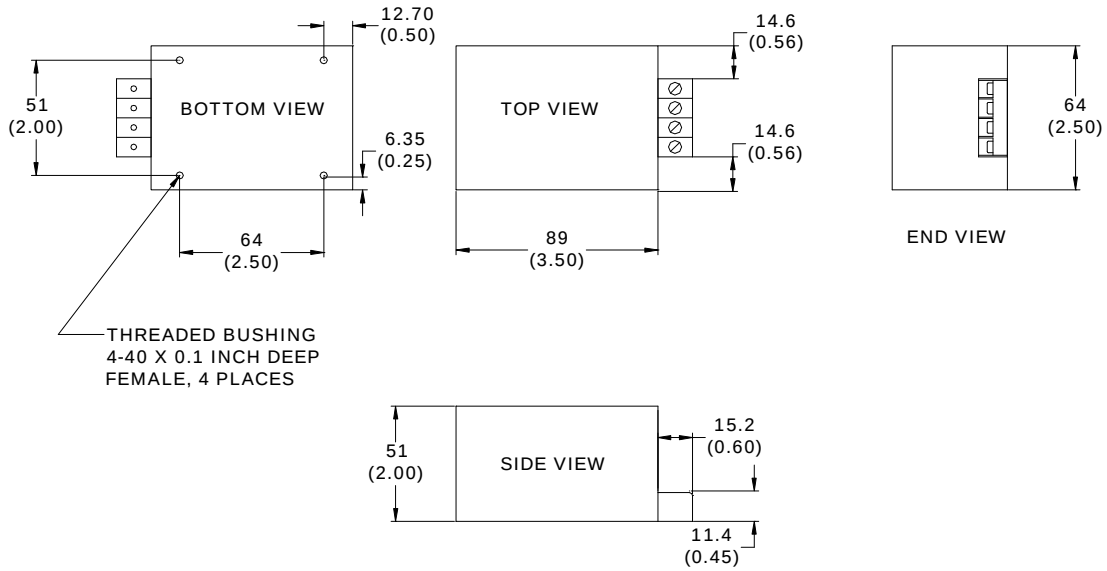


Figure 6: External Power Supply
Dimensions are in millimeters (inches)

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