



Introduction

The RM Young Barometric Pressure Sensor 61402 combines high accuracy and low power consumption over a wide range of pressures and temperatures. The sensor's compact size allows easy placement in most standard enclosures.

Model 61402V requires 12 VDC excitation and provides a 0-5 VDC output signal scaled to the measurement range of 500 to 1100 hPa. These instructions show how to install this sensor on an NRG tubular tower and explain how to use it with a SymphoniePRO data logger.

NRG offers different kits for a wide range of installation locations:

Kit #	Description	Sensor Cable Length (m)
#17422/#17433	For sensor installation inside logger shelter box. Includes self-tapping screws for installing sensor on shelter box back plate & strain relief for routing sensor tubing.	1.5
#17429/#17434	For sensor installation on a tower near logger shelter box. Includes Pressure Port 61002 & Weatherproof Enclosure 61360.	1.5
#17430	For sensor installation on a tower up to approx. 60m height. Includes Pressure Port 61002 & Weatherproof Enclosure 61360.	67
#17431	For sensor installation on a tower up to approx. 80m height. Includes Pressure Port 61002 & Weatherproof Enclosure 61360.	90
#17432	For sensor installation on a tower up to approx. 110m height. Includes Pressure Port 61002 & Weatherproof Enclosure 61360.	115



Refer to manufacturer's documentation for more information about how to prepare, test, and install these sensors.



These instructions pertain to using the RM Young Model 61402V in the voltage output configuration ONLY. Do not use these instructions for any other model of RM Young Barometric Pressure Sensor or for Model 61402V in the serial output configurations.

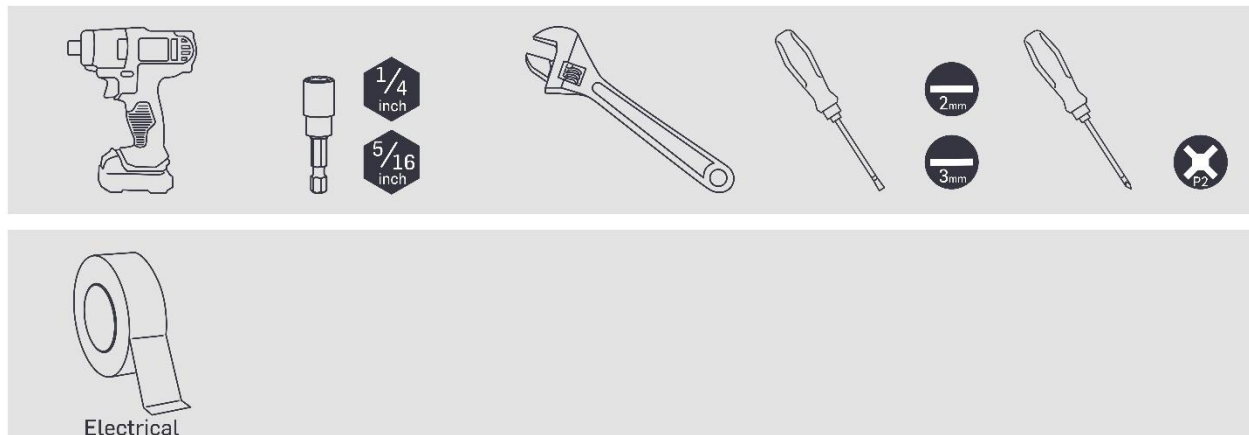


61402V Sensor Kits: BOM Table

The table below shows the breakdown of kit components of NRG Sales Kits for the 61402V sensor.

#17422 #17433	#17429 #17434	#17430 #17431 #17432	NRG Part #	Part Description	Part Specification	Qty
			17381	BP Sensor	RM Young Model 61402V Sensor	1
			17382	Pressure Port	RM Young #61002	1
			17407	Weatherproof Enclosure	RM Young #61360	1
			17412	Shelter Box Hardware	(2) #8 Self-tapping screws Stainless (1) Cable strain relief 0.19"-0.25" For 0.5" NPT knockout	1
			2703	Mounting Band Clamps	Size #164 2.0"-10.75" Stainless	2
#3692	#3692	#2406 #2410 #3605	Various	3C Sensor Cable	3C Shielded 20 AWG wires Length specified by kit	1

Required Tools: All Sensor Kits

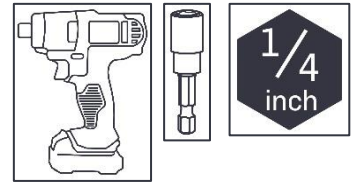




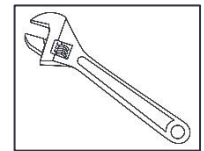
61402V Sensor Installation

Shelter Box-Mounted Installation Kits

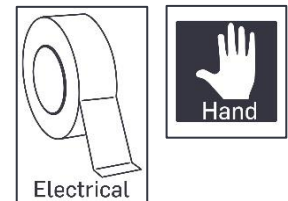
- 1 Mount BP Sensor 61402V to the shelter box backplate using the (2) #8 x 3/8" self-tapping screws included in #17412.



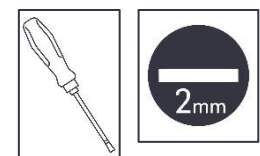
- 2 Secure the strain relief into a hole in the bottom of the shelter box.



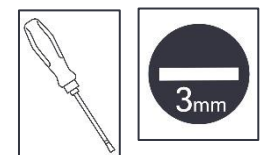
- 3 Attach the 3/16" ID clear flexible tubing to the fitting on BP Sensor 61402V. Feed the other end through the strain relief to the outside of the shelter box. Secure to the tower with electrical tape, ensuring that the end of the hose is facing downwards.



- 4 Connect the individual sensor wires from the 3C sensor cable to the correct terminals of BP Sensor 61402V. (Refer to *61402V Sensor Wiring Connections*.)



- 5 Connect the other end of the sensor wires and the bare shield wire to the logger wiring panel.






Tower-Mounted Installation Kits

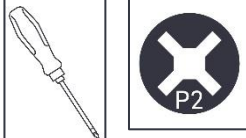
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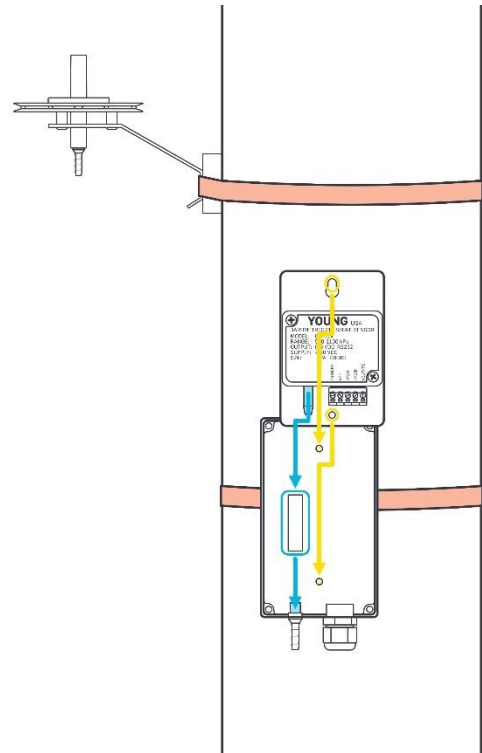
Mount Pressure Port #61002 & Weatherproof Enclosure #61360 to the tower using supplied band clamps (NRG #2703).




Attach the small piece of tubing (incl. with #61002) to the fittings on the enclosure & sensor.



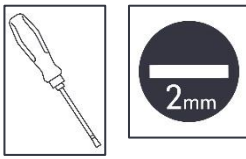
Mount the sensor onto the enclosure backplate using supplied #4x5/8" self-tapping screws.



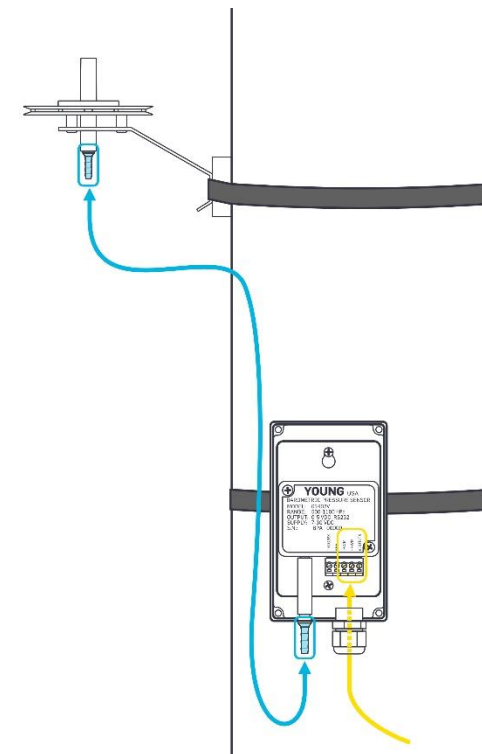
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Attach the 3/16" ID clear flexible tubing to the fittings on #61360 & the outside of #61002. Secure to the tower with electrical tape.



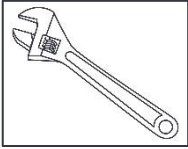
Route the 3C sensor cable through the strain relief of #61002. Connect the individual sensor wires to the correct terminals. (Refer to 61402V Sensor Wiring Connections.)





RM Young BP Sensor 61402V | Installation & Wiring

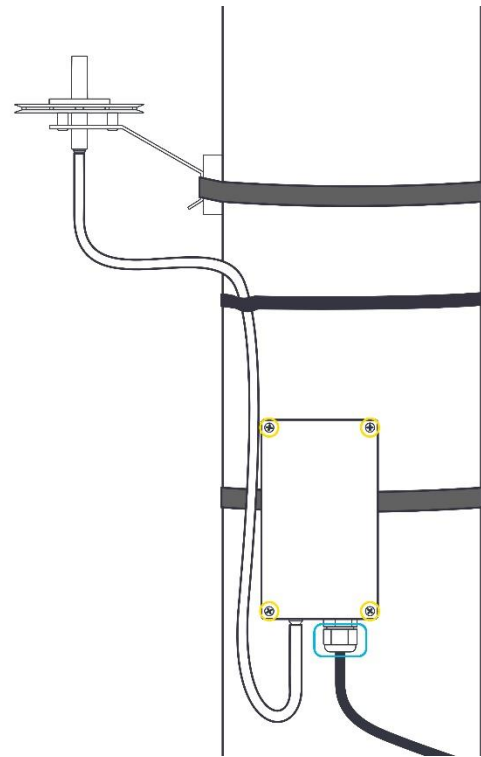
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Seal the strain relief gasket around the 3C sensor cable.

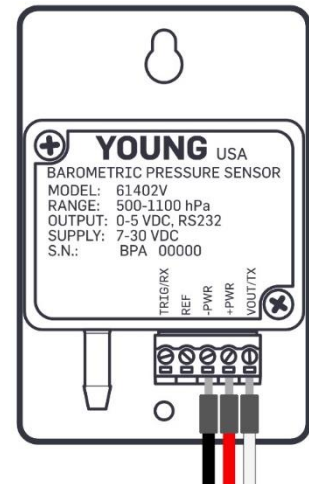
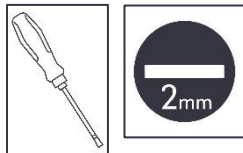


Secure the lid to #61002 by tightening the (4) screws in the corners.



61402V Sensor Wiring Connections

The RM Young 61402V Barometric Pressure Sensor does not have an integrated cable, so a 3C shielded cable must be connected to the correct sensor terminals by the installer.

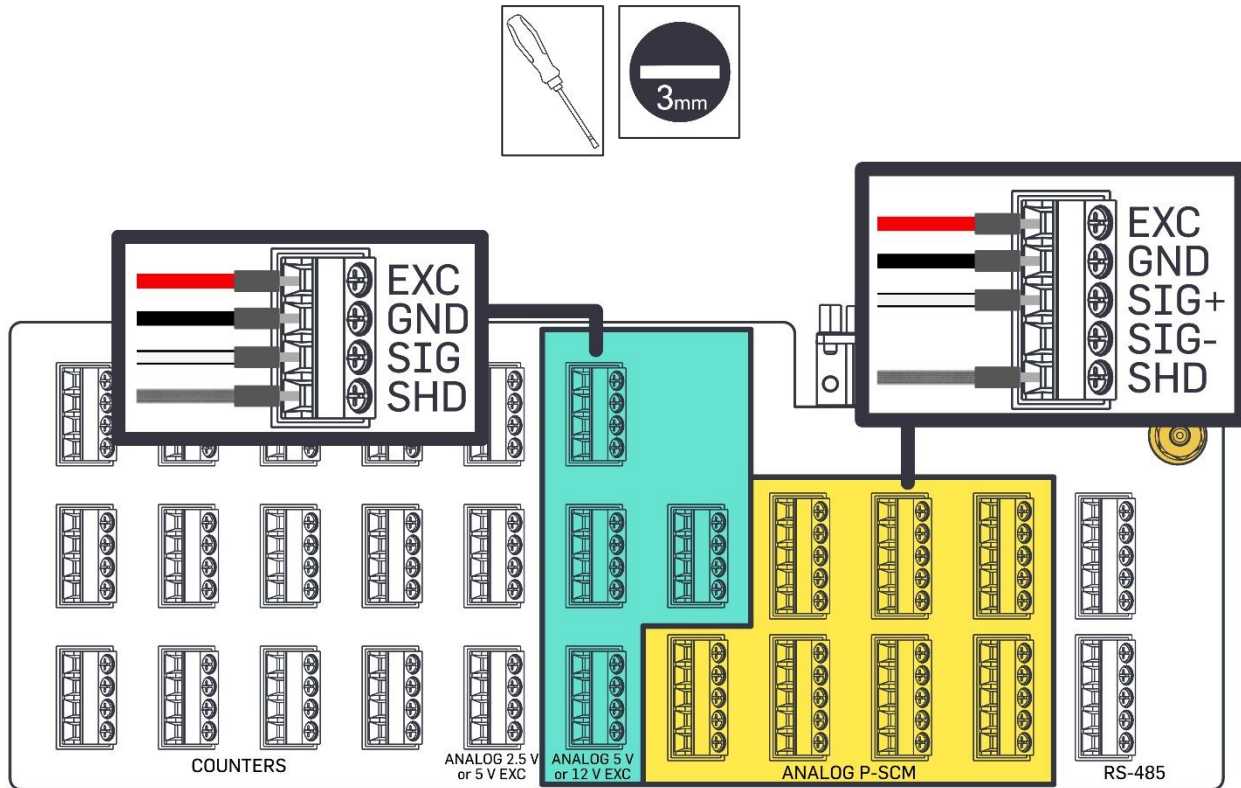


The diagram above shows the R/B/W wire color conventions found in standard NRG sensor cabling. The wire colors used for individual installations could vary and it is up to the installer to ensure that wires are connected to the correct terminals.



Wiring Panel Connections

The RM Young 61402V Barometric Pressure Sensor can be connected to a SymphoniePRO logger wiring panel on built-in analog channels 16-19 or P-SCM channels 20-26 with P-SCM #9132.



The diagram above shows the R/B/W wire color conventions found in standard NRG sensor cabling. The wire colors used for individual installations could vary and it is up to the installer to ensure that wires are connected to the correct terminals.



Channel Configuration

1. Select “Statistics” or “Stats & Samples” from the **Data Logging Mode** drop-down.
2. Use “Analog” (default option) for **Channel Type**
3. Fill in **Description, Serial Number, Height, and Boom Bearing**, as appropriate.
4. Under Sensor Transfer Function, complete the fields as follows:

Scale Factor = 120

Offset = 500

Units = hPa

Analog Channels 16-19:

Under Excitation, select “Constant On” from **Mode** & “12V” from **Voltage** drop-down menus.

P-SCM Channels 20-26:

Select **P-SCM #9132** from the drop-down menu.