Migration Solutions

Allen-Bradley

837E Solid-State Temperature Sensors
to the 837T Solid-State Temperature Sensors

Why Upgrade or Migrate?

While the Allen-Bradley 837E Solid-State Temperature Sensor has been a valuable part of our portfolio, this product will no longer be available for sale after June 30, 2020.* Now is the time to migrate to the 837T Solid-State Temperature family.

Featuring a compact size and embedded IO-Link communication protocol (display model), the new 837T sensor easily integrates into The Connected Enterprise, delivering data from the sensor directly into a control system in a very cost efficient and easy to use manner via an IO-Link Master and EtherNet/IP.™

The 837T Temperature sensors are available in display and non-display models along with a various number of process connections providing a more comprehensive solution than the previous offering.

837T Features and Benefits

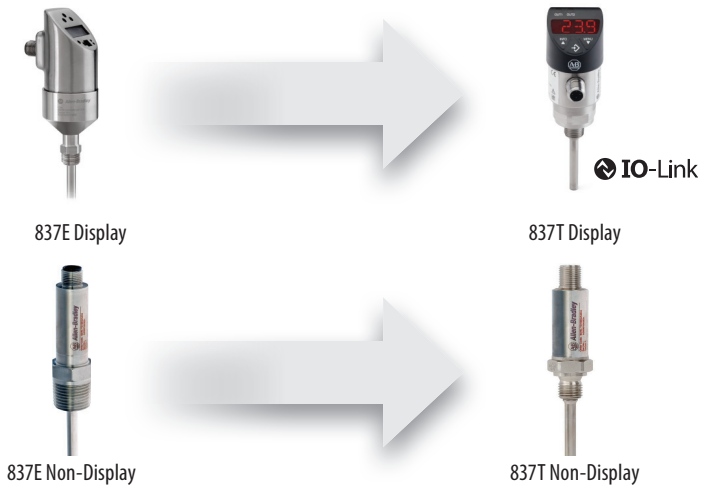
Display Models

- Temperature Range: -20…+80 °C (-4…+176 °F)
- Embedded IO-Link communication protocol helps minimize downtime and increase productivity
- Programming through the Studio 5000 Logix Designer™ Software
- Probe Lengths: 25…350 mm (0.98…13.7 in.)
- Rotatable housing (320°) and head (330°) provide application flexibility

Non-Display Models

- Temperature Range: -50…+250 °C (-58…+482 °F)
- Probe Lengths: 25…400 mm (0.98…15.75 in.)
- Available in 2 form factors – standard and extended range
- IP67 enclosure rating

** Discontinued date may be subject to change.*



Identify, Mitigate and Help Eliminate the Risk of Automation Obsolescence

In today's economy, it is necessary to have migration solutions that help you to achieve increased productivity and lessen your risk of maintaining your legacy equipment. You need to work with a supplier that has the product, service and industry knowledge to partner with you on an upgrade strategy that will help you maximize your competitive advantage.

Rockwell Automation and its partners will work with you to outline a plan that fits your application needs and long-term goals. We can help you migrate all at once or in phases, at the pace that is comfortable for you and fits your budget.

With your goals in mind, Rockwell Automation has developed a migration strategy that will allow you to quickly and easily migrate from 837E pressure sensors to the new 837T temperature sensors.

Product Lifecycle

Use the *Product Lifecycle Status* search tool on the web to find specific lifecycle information by catalog number.

- ACTIVE: Most current offering within a product category.
- ACTIVE MATURE: Product is fully supported, but a newer product or family exists. Gain value by migrating.
- END OF LIFE: Discontinued date announced – actively execute migrations and last time buys. Product generally orderable until the discontinued date.[1]
- DISCONTINUED: New product no longer manufactured or procured.[2] Repair/exchange services may be available.

1 - Outages on specific items may occur prior to the Discontinued date.
2 - Limited stock may be available in run-out mode, regionally.

Rockwell Automation

837E Display Temperature Sensors Compared to the 837T Display Temperature Sensors

837E Display

Dia : 42.3 mm (1.6 in.)

97.1 mm (approx.) (3.8 in.)

837T Display

Dia : 45 mm (1.7 in.)

109 mm (approx.) (4.2 in.)

IO-Link

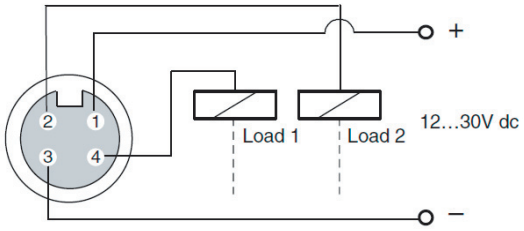
Specifications	837E	837T
Certifications	cULus , CE	CE , EMC , RoHS
Supply Voltage	12…30V DC	15…35V DC
Output	Dual PNP and Analog 4…20 mA	Dual PNP and Analog 4…20 mA
Supply Current	<60 mA	70 mA
Ambient Temperature	-40…+85 °C (-40…+183 °F)	-20…+80 °C (-4…+176 °F)
Measuring Temperature	-50…+150 °C (-58…+302 °F)	-20…+80 °C (-4…+176 °F) 0…150 °C (32…212 °F)*
Housing Materials	316L stainless steel	304 stainless steel
Wetted Parts	316L stainless steel	316L Ti
Enclosure Rating	IP66	IP67
Rotatable Parts	Housing - 310°	Housing - 320° Display Head - 330°
Display	4 digit 14 segment digital display	4 digit 14 segment digital display - Bigger and brighter Display can be rotated 180° via firmware
Service Life	> 10 million	> 100 million
Process Connections	1/4" NPT male G 1/4 BSPP male SAE 7/16…20 UNF male	1/4" NPT male 1/2" NPT male G 1/4 BSPP male G 1/2 BSPP male

** 837T High Temperature models 0…150 °C (32…302 °F) are only available in probe length of 100 mm or greater.*
The sanitary connections for the old 837E are currently discontinued.

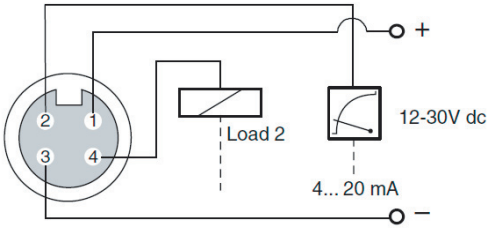
Wiring Diagrams

837E Display

Dual PNP

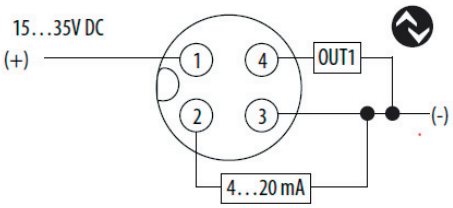


Analog

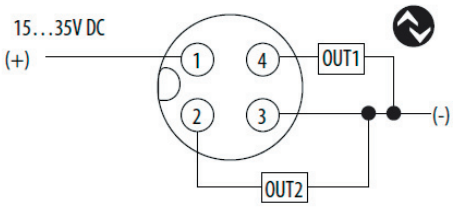


837T Display

1 PNP x 4…20 mA



2 PNP



Note : The wiring diagrams are the same for the old and the new temperature sensors.

Catalog Number Migration

The 837E catalog numbers being discontinued are listed in the table with a cross reference to the recommended 837T catalog numbers.

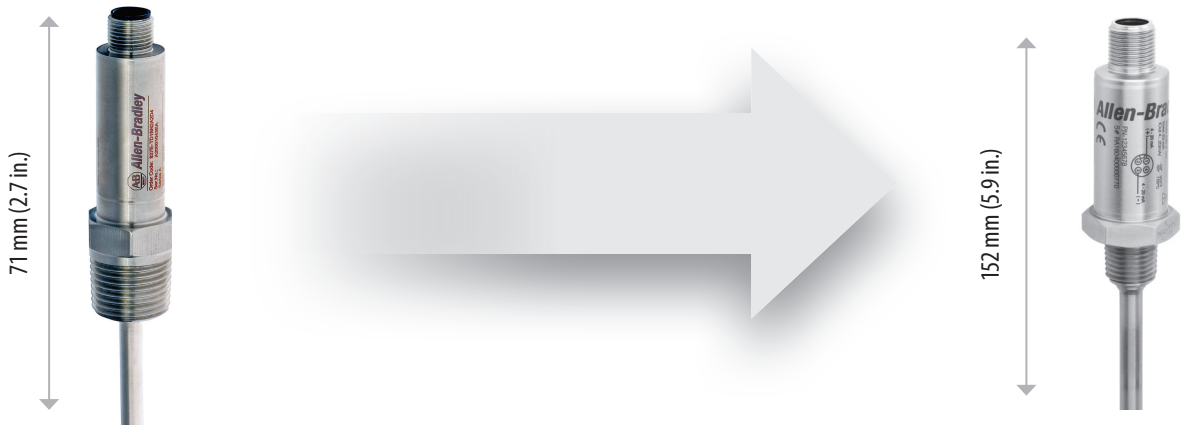
Process Connection	Output Type	837E Catalog Number	Preferred Replacement 837T Catalog Number
1/4" NPT Male	Dual PNP	837E-DA1BN1A1-D4	837T-D3N14A50PP-D4
		837E-DA1BN1A2-D4	837T-D3N14B10PP-D4
		837E-DA1BN1A4-D4	837T-D3N14B25PP-D4[1]
1/2" NPT Male		837E-DA1BN2A1-D4	837T-D3N12A50PP-D4
		837E-DA1BN2A2-D4	837T-D3N12B10PP-D4
		837E-DA1BN2A4-D4	837T-D3N12B25PP-D4[1]
G 1/4 BSPP Male		837E-DA1BN3A1-D4	837T-D3G14A50PP-D4
		837E-DA1BN3A2-D4	837T-D3G14B10PP-D4
		837E-DA1BN3A4-D4	837T-D3G14B25PP-D4[1]
G 1/2 BSPP Male		837E-DA1BN4A1-D4	837T-D3G12A50PP-D4
		837E-DA1BN4A2-D4	837T-D3G12B10PP-D4
		837E-DA1BN4A4-D4	837T-D3G12B25PP-D4
1/4" NPT Male	1 x PNP + Analog 4…20 mA	837E-DC1BN1A1-D4	837T-D3N14A50PA-D4
		837E-DC1BN1A2-D4	837T-D3N14B10PA-D4
		837E-DC1BN1A4-D4	837T-D3N14B25PA-D4[1]
1/2" NPT Male		837E-DC1BN2A1-D4	837T-D3N12A50PA-D4
		837E-DC1BN2A2-D4	837T-D3N12B10PA-D4
		837E-DC1BN2A4-D4	837T-D3N12B25PA-D4[1]
G 1/4 BSPP Male		837E-DC1BN3A1-D4	837T-D3G14A50PA-D4
		837E-DC1BN3A2-D4	837T-D3G14B10PA-D4
		837E-DC1BN3A4-D4	837T-D3G14B25PA-D4[1]
G 1/2 BSPP Male		837E-DC1BN4A1-D4	837T-D3G12A50PA-D4
		837E-DC1BN4A2-D4	837T-D3G12B10PA-D4
		837E-DC1BN4A4-D4	837T-D3G12B25PA-D4[1]

Note : This migration guide only lists all the replacement catalog numbers that were available for the old 837E temperature sensor.
For information on additional 837T configurations refer to the 837T product profile (publication number 837T-PP001B-EN-P).
[1]This probe length of this catalog is 250 mm as compared to the 200 mm on the old 837E.

837E Non-display Temperature Sensors Compared to the 837T Non-display Sensors

837E Non-display

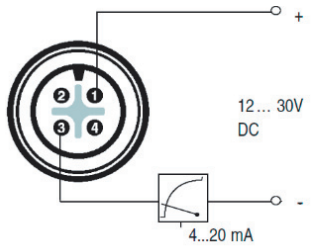
837T Non-display



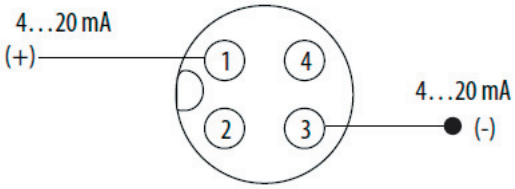
Specifications	837E Non-display	837T Non-display
Certifications	CE	CE
Supply Voltage	12…30V DC	10…30V DC
Output	Analog 4…20 mA	Analog 4…20 mA
Supply Current	< 30 mA	< 25 mA
Ambient Temperature	-40…+85 °C (-40…+183 °F)	-50…+250 °C (-58…+482 °F)
Measuring Temperature	-50…+150 °C (-58…+302 °F)	Standard: -50…+150 °C (-58…+302 °F) Extended range: -50…+250 °C (-58…+482 °F)
Housing Materials	304 stainless steel	304 stainless steel
Wetted Parts	316L stainless steel	316L stainless steel
Enclosure Rating	IP65/NEMA 4X	IP67
Process Connections	1/4" NPT male G 1/4 BSPP male	1/4" NPT male G 1/4 BSPP male

Wiring Diagrams

837E Non-display



837T Non-display



Note : The wiring diagrams are the same for the old and the new temperature sensors.

837E Non-display Sensors Compared to the 837T Non-display Sensors

The 837E catalog numbers being discontinued are listed in the table with a cross reference to the recommended 837T catalog number(s).

Non-Display*			
1/4" NPT Male	Analog 4…20 mA	837E-TD1BN1A1-D4	837T-N1N14A50A-D4
		837E-TD1BN1A2-D4	837T-N1N14B10A-D4
		837E-TD1BN1A4-D4	837T-N1N14B25A-D4[1]
1/2" NPT Male		837E-TD1BN2A1-D4	Migrate to 1/4" NPT or G1/4 BSPP
		837E-TD1BN2A2-D4	
		837E-TD1BN2A4-D4	
G1/4 BSPP Male		837E-TD1BN3A1-D4	837T-N1G14A50A-D4
		837E-TD1BN3A2-D4	837T-N1G14B10A-D4
		837E-TD1BN3A4-D4	837T-N1G14B25A-D4[1]

Note : This migration guide only lists all the replacement catalog numbers that were available for the old 837E temperature sensor.
For information corresponding to the additional 837T configuration refer to the 837T product profile (publication number 837T-PP001A-EN-P).
[1]This probe length of this catalog is 250 mm as compared to the 200 mm on the old 837E.
** The new Non-Display 837T-N has 2 models – standard: -50…150 °C (-58…302 °F) – extended range: -50…250 °C (-58…482 °F)*

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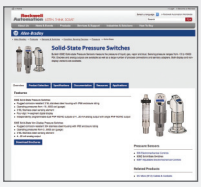
http://ab.rockwellautomation.com/Sensors-Switches/Temperature-Sensors/837T-Solid-State



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