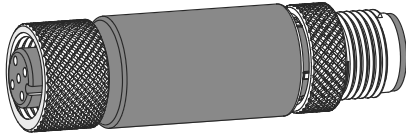


S15C Voltage Transformer to Modbus® Converter



Features

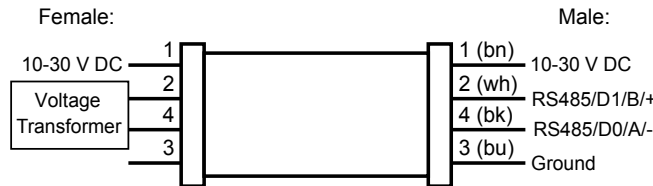


- Easily measure AC voltage of any 0.333V standard output transformer
- Convert a standard transformer output voltage into Modbus registers
- Meets IP65, IP67, and IP68 ratings with a rugged overmolded housing

Models

Model Name	Input	Output	Connection
S15C-UT460-MQ	460 V Voltage Transformer ⁽¹⁾	Modbus	Integral 4-pin M12 male-female quick-disconnect connector

Converter Wiring



Male (Gateway)	Female (Sensor)	Pin	Wire Color
		1	Brown
		2	White
		3	Blue
		4	Black

Female (Sensor)	Signal Description
Pin 1	10 V DC to 30 V DC
Pin 2	Voltage Transformer
Pin 3	Not Used
Pin 4	Voltage Transformer

Male (Gateway)	Signal Description
Pin 1	10 V DC to 30 V DC
Pin 2	RS485/D1/B/+
Pin 3	Ground
Pin 4	RS485/D0/A/-

Configuration Instructions

Sensor Configuration Software

The Sensor Configuration Software offers an easy way to manage converter Modbus settings, retrieve data, and visually show converter data. The Sensor Configuration Software runs on any Windows machine and uses an adapter cable (BWA-UCT-900, p/n 19970) to connect the converter to the computer.

Download the most recent version of the Sensor Configuration Software from the Banner Engineering website: https://info.bannerengineering.com/cs/groups/public/documents/software/b_3128586.exe.

⁽¹⁾ Default.

S15C-UT Modbus Configuration

Modbus Register Address	Type	Name	I/O Range	Description	Notes	Default
IO Data Out						
40001	uint16, Read Only	IO Data	0-65535	Analog Data output	AC Voltage (V) = Register Value/100	0-46000
40002	bool, Read Only	IO Alarm State	-	Alarm State for IO based on Min and Max thresholds defined in Analog In Min Value () and Analog In Max Value ()	0 = Within threshold range 1 = Out of threshold range	-
40003	int16, Read Only	IO Error Status	STATUS_ERROR_TYPE_NO_ERROR = 0 STATUS_ERROR_TYPE_BELOW_MIN = 1 STATUS_ERROR_TYPE_ABOVE_MAX = 2	Status of program	0-2 value	-
40801	uint16, read Only	Measurement List Max	-	-	-	-
40802	uint16, read Only	Measurement List Min	-	-	-	-
40803	uint16, read Only	Measurement List Mean	-	-	-	-
40811-40820	uint16, read Only	Measurement List	0-65535	FIFO (First In, First Out) list of past 10 measurements		
IO Data Rate						
41201	uint16, Read and Write	Sample IO	0-65535	Sample interval time for IO	Increments of 62.5 ms	16 (1 second)
Minimum Value						
41204	uint16, Read and Write	Minimum Analog Value	-	Minimum analog value for data read	Minimum value: 0	0
Maximum Value						
41205	uint16, Read and Write	Maximum Analog Value	-	Max analog value for data read	Maximum value	460
Line Frequency						
41011	int16, Read and Write	AC Line Frequency	1 = 60 Hz 2 = 50 Hz	AC Line Frequency	1 = 60 Hz 2 = 50 Hz	1
41015	uint16, Read and Write	Transformer Range	0-655	Voltage range of the transformer used	-	460
COMs Settings						
46101	Baud Rate	-	0 = 9.6k 1 = 19.2k 2 = 38.4k	-	-	1
46102	Parity	-	0 = None 1 = Odd 2 = Even	-	-	0
46103	Modbus Slave Address	-	1 to 247	-	-	1

S15C-UT Specifications

Supply Voltage

10 V DC to 30 V DC at 50 mA maximum

Power Pass-Through Current

4 A maximum

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Leakage Current Immunity

400 µA

Resolution

12-bits

Voltage Input

0-0.333 V

Indicators

Green power
Amber Modbus communications

Connections

Integral 4-pin M12 male/female quick-disconnect connector

Construction

Coupling Material: Nickel-plated brass
Connector Body: PVC translucent black

Vibration and Mechanical Shock

Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 0.5 mm amplitude, 5 minutes sweep, 30 minutes dwell)

Meets IEC 60068-2-27 requirements (Shock: 15G 11 ms duration, half sine wave)

Environmental Rating

IP65, IP67, IP68
UL Type 1

Operating Conditions

Temperature: -40 °C to +70 °C (-40 °F to +158 °F)


90% at +70 °C maximum relative humidity (non-condensing)

Storage Temperature: -40 °C to +80 °C (-40 °F to +176 °F)

Product Identification



Required Overcurrent Protection



WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
 Supply wiring leads < 24 AWG shall not be spliced.
 For additional product support, go to www.bannerengineering.com.

Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	1.0	30	0.5

Certifications



Banner Engineering BV
 Park Lane, Culliganlaan 2F bus 3
 1831 Diegem, BELGIUM



Turck Banner LTD Blenheim House
 Blenheim Court
 Wickford, Essex SS11 8YT
 GREAT BRITAIN



UL LISTED

FCC Part 15 Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

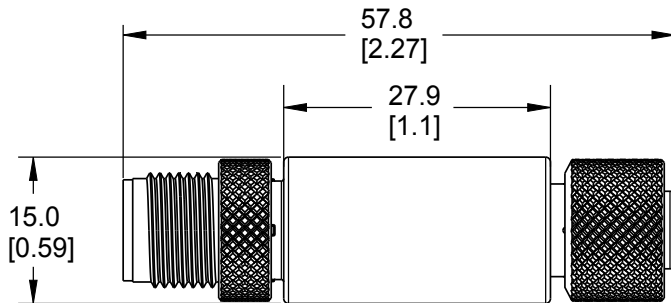
Industry Canada ICES-003(B)

This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la norme NMB-3(B). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas occasionner d'interférences, et (2) il doit tolérer toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité du dispositif.

Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise.



Accessories

Cordsets

4-Pin Threaded M12 Cordsets—Double Ended				
Model	Length	Style	Dimensions	Pinout
MQDEC-401SS	0.31 m (1 ft)	Male Straight/Female Straight		Female
MQDEC-403SS	0.91 m (2.99 ft)			Female
MQDEC-406SS	1.83 m (6 ft)			Female
MQDEC-412SS	3.66 m (12 ft)			Female
MQDEC-420SS	6.10 m (20 ft)			Female
MQDEC-430SS	9.14 m (30.2 ft)			Female
MQDEC-450SS	15.2 m (49.9 ft)	Male		Male

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For patent information, see www.bannerengineering.com/patents.

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 Part number: 236440
 Revision: A
 Original Instructions
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