Instruction Bulletin

MSA141 Analog Output Module
Installation Sheet

Retain for future use.

Function

MT11009

MSA141 Analog Output Module

The MSA141 module converts one of the Sepam™ measurements into an analog signal. Measurement selection is determined by parameter setting:

- 0-10 mA, 4-20 mA, or 0-20 mA analog signal according to parameter setting

To scale the analog signal, set minimum and maximum values of the converted measurement.

Example—the setting used to set phase current (**Ia**) as a 0-10 mA analog output with a dynamic range of 0-300 A is:
minimum value = 0
maximum value = 300 (3000 • 0.1A = 300.0 A)

Any one of the CCA770 (2 ft or 0.6 m), CCA772 (6.6 ft or 2 m) or CCA774 cables (13.1 ft or 4 m) connects a single module for each Sepam base unit.

Characteristics

MSA141 Module				
Weight	0.441 lb (0.2 kg)			
Assembly	On symmetrical DIN rail			
Operating Temperature	–13°F to +158°F (–25°C to +70°C)			
Environmental Charactedristics	Same as Sepam base units			
Analog Output				
Current	4-20 mA, 0-20 mA, 0-10 mA			
Scaling (no data input checking)	Minimum value			
	Maximum value			
Load Impedance	< 600 Ω (wiring included)			
Accuracy	0.5 %			
Measurements Available	**Unit**	**Series 20**	**Series 40**	**Series 80**
Phase and Residual Currents	0.1 A	■	■	■
Phase-to-neutral and phase-to-phase voltages	1 V	■	■	■
Frequency	0.01 Hz	■	■	■
Thermal Capacity Used	1 %	■	■	■
Temperatures	1°F (1°C)	■	■	■
Active Power	0.1 kW		■	■
Reactive Power	0.1 kVAR		■	■
Apparent Power	0.1 kVA		■	■
Power Factor	0.01			■
Remote Setting via Communication Link		■	■	■

Description and Dimensions

Ⓐ Terminal block for analog output

Ⓓa RJ45 connector to connect the module to the base unit with a CCA77x cord

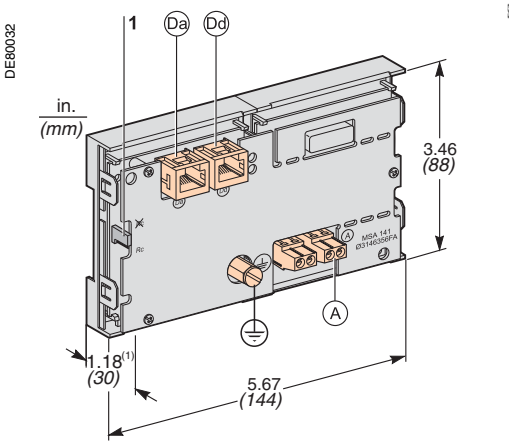
Ⓓd RJ45 connector to link up the next remote module with a CCA77x cord (according to application)

⏚ Grounding terminal

1. The jumper for impedance matching with load resistor (Rc), to be set to:

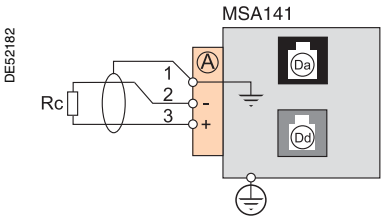
   ~~Rc~~ , if the module is not the last interlinked module (default position); or,

   Rc, if the module is the last interlinked module.



2.8 in (70 mm) with CCA77x cord connected

Connection



Perform the following steps to connect MSA141:

1. For a ground terminal connection, use a tinned copper braid with a cross-section ≥ 6 mm² (AWG 10) or a cable with a cross section ≥ 2.5 mm^2 (AWG 12) and length ≤7.9 in (200 mm), equipped with a 0.16 in (4 mm) ring lug.
2. Check the tightness. The maximum tightening torque is 19.5 in-lb (2.2 Nm).
3. To connect an analog output to a screw-type connector, use either one wire with a cross-section 0.2 to 2.5 mm² (AWG 24-12), or two wires with a cross-section 0.2 to 1 mm² (AWG 24-16).

Use shielded cables whenever possible. Use a tinned copper braid to connect the shielding at the MSA141 end.

CAUTION
ESD SENSITIVE COMPONENTS • Before touching the Memory Cartridge you must ground yourself and discharge any static charge • Ground yourself every time before touching the memory cartridge
Failure to follow this instruction can result in equipment damage.

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