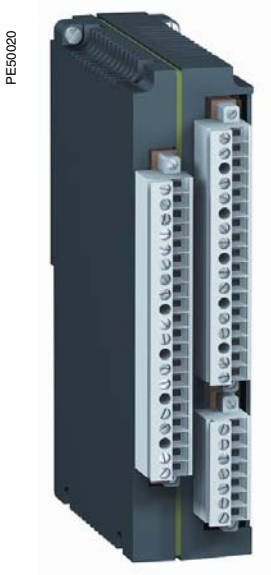
Instruction Bulletin

MES120, MES120G, MES120H Input/Output Modules
Install Sheet

Retain for future use.

Function

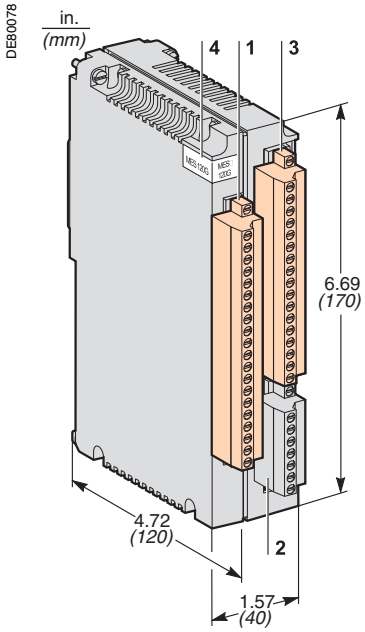


You can extend the five output relays included on the Sepam™ Series 80 base unit by adding one, two, or three MES120 modules with 14 DC logic inputs and six output relays, one control relay output, and five annunciation relay outputs.

Three modules are available for the different input supply voltage ranges and offer different switching thresholds:

- MES120, 14 inputs 24 V DC to 48 V DC with a typical switching threshold of 14 V DC
- MES120G, 14 inputs 220 V DC to 250 V DC with a typical switching threshold of 155 V DC
- MES120H, 14 inputs 110 V DC to 125 V DC with a typical switching threshold of 82 V DC

Description



There are three removable, lockable screw-type connectors.

1. 20-pin connector for nine logic inputs:
   - Ix01 to Ix04: four independent logic inputs
   - Ix05 to Ix09: five common point logic inputs
2. 7-pin connector for five common point logic inputs Ix10 to Ix14.
3. 17-pin connector for six relay outputs:
   - Ox01: one control relay output
   - Ox02 to Ox06: five annunciation relay outputs

Addressing MES120 module inputs/outputs:

- x = 1 for the module connected to H1
- x = 2 for the module connected to H2
- x = 3 for the module connected to H3

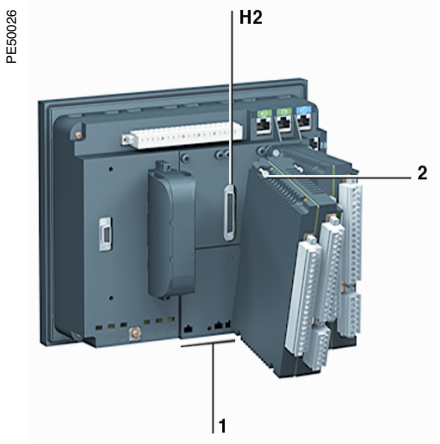
4. MES120G, MES120H identification label (MES120 modules have no labels).

Characteristics

MES120/MES120G/MES120H Modules					
Weight			0.83 lb (0.38 kg)		
Operating temperature			–13°F to +158°F (–25°C to +70°C)		
Environmental characteristics			Same characteristics as Sepam base units		
Logic Inputs		**MES120**	**MES120G**	**MES120H**	
Voltage		24 to 48 V DC	220 to 250 V DC	110 to 125 V DC	
Range		19.2 to 275 V DC	170 to 275 V DC	88 to 150 V DC	
Typical burden		3 mA	3 mA	3 mA	
Typical switching threshold		14 V DC	155 V DC	82 V DC	
Input limit voltage	At state 0	< 6 V DC	< 144 V DC	< 75 V DC	
	At state 1	> 19 V DC	> 170 V DC	> 88 V DC	
Isolation of inputs from other isolated groups		Enhanced	Enhanced	Enhanced	
Control Relay Output Ox01*					
Voltage	DC	24/48 V DC	127 V DC	250 V DC	
	AC (47.5 to 63 Hz)				100 to 240 V AC
Continuous current		8 A	8 A	8 A	8 A
Breaking capacity	Resistive load	8/4 A	0.7 A	0.3 A	8 A
	Load L/R < 20 ms	6/2 A	0.5 A	0.2 A	
	Load L/R < 40 ms	4/1 A	0.2 A	0.1 A	
	Load p.f. > 0.3				5 A
Making capacity		< 30 A for 200 ms			
Isolation of outputs from other isolated groups		Enhanced			
Annunciation Relay Output Ox02 to Ox06					
Voltage	DC	24/48 V DC	127 V DC	250 V DC	
	AC (47.5 to 63 Hz)				100 to 240 V AC
Continuous current		2 A	2 A	2 A	2 A
Breaking capacity	Load L/R < 20 ms	2/1 A	0.5 A	0.15 A	
	Load p.f. > 0.3				1 A
Isolation of outputs from other isolated groups		Enhanced			

[1] * Ox01 denotes module number of I/O. For example, the first output of module #2 is O201.

Assembly



Installing a second MES120 module, connected to base unit connector H2

Perform the following steps to install an MES120 Module on the Base Unit:

1. Insert the two pins on the MES module into the slots (1) on the base unit.
2. Push the module flat up against the base unit to plug it into the connector (H2).
3. Partially tighten the two mounting screws (2) before locking them.

- For the MES120, if only one module is required, connect it to connector (H1) as shown
- If two modules are required, connect them to connectors (H1) and (H2)
- If three modules are required (maximum configuration), the three connectors H1, H2 and H3 are used

Connection

The inputs are potential-free and the DC power supply source is external from the relay base unit.

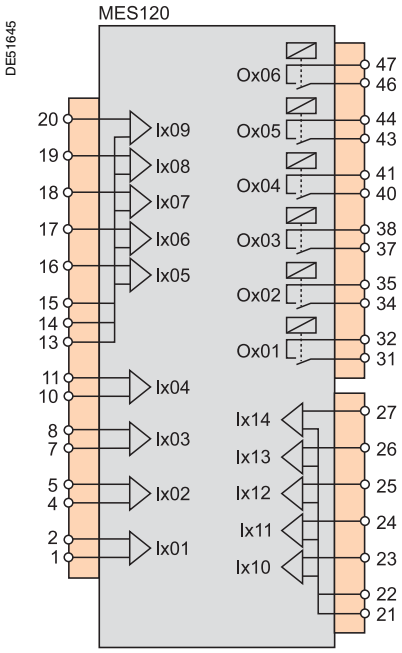
⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Only qualified electrical workers should install this equipment. Such work should be performed only after reading this entire set of instructions
- NEVER work alone
- Before performing visual inspections, tests, or maintenance on this equipment, disconnect all sources of electric power. Assume that all circuits are live until they have been completely de-energized, tested, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of backfeeding
- Always use a properly rated voltage sensing device to confirm that all power is off
- Screw tight all terminals, even those not in use

Failure to follow these instructions will result in death or serious injury.

Connector Wiring



Wiring without fittings:

- One wire with maximum cross-section 0.2 to 2.5 mm^2 (≥ AWG 24-12)
- Two wires with maximum cross-section 0.2 to 1 mm^2 (≥ AWG 24-16)
- Stripped length: 0.31 to 0.39 in (8 to 10 mm)

Wiring with fittings:

- Recommended wiring with Telemecanique fittings:
  - — DZ5CE015D for one 1.5 mm^2 wire (AWG 16)
  - — DZ5CE025D for one 2.5 mm^2 wire (AWG 12)
  - — AZ5DE010D for two 1 mm^2 wires (AWG 18)
- Wire length: 0.32 in (8.2 mm)
- Stripped length: 0.31 in (8 mm)
- Tightening torque: 6.1 to 8.8 in-lb (0.7 to 1 Nm)

Notes

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