

Easergy MiCOM P438

Rail Catenary Protection Device

P438/EN IN/Bg9

Version P438 -309 -415/416/417 -617ff

Supporting Documents

This document does not replace the Technical Manual.



Warning

When electrical equipment is in operation dangerous voltage will be present in certain parts of the equipment. Failure to observe warning notices, incorrect use or improper use may endanger personnel and equipment and cause personal injury or physical damage.

Before working in the terminal strip area, the device must be isolated. Where stranded conductors are used, wire end ferrules must be employed.

The signals 'Main: Blocked/faulty' and 'SFMON: Warning (LED)' (permanently assigned to the LEDs labelled 'OUT OF SERVICE' and 'ALARM') can be assigned to output relays to indicate the health of the device. Schneider Electric strongly recommends that these output relays are hardwired into the substation's automation system, for alarm purposes.

Any modifications to this device must be in accordance with the manual. If any other modification is made without the express permission of Schneider Electric, it will invalidate the warranty, and may render the product unsafe.

Proper and safe operation of this device depends on appropriate shipping and handling, proper storage, installation and commissioning, and on careful operation, maintenance and servicing.

For this reason only qualified personnel may work on or operate this device.

The user should be familiar with the warnings in the Safety Guide (SFTY/4LM/J11 or later version), before working on the equipment.

Installation of the DHMI:

A protective conductor (ground/earth) of at least 1.5mm² (US: AWG 16 or higher) must be connected to the DHMI protective conductor terminal to link the DHMI and the main relay case; these must be located within the same substation.

To avoid the risk of electric shock the DHMI communication cable must not be in contact with hazardous live parts.

The DHMI communication cable must not be routed or placed alongside high-voltage cables or connections. Currents can be induced in the cable which may result in electromagnetic interference.

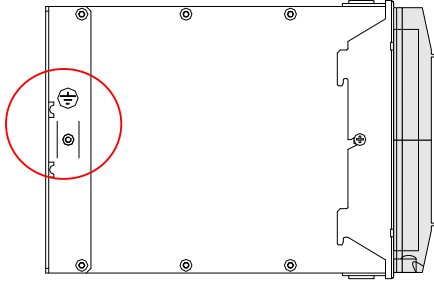
CE Marking

This product complies with the essential requirements of the following European directives:
Electromagnetic Compatibility Directive (EMC) 2004/108/EC
Low Voltage Directive (LVD) 2006/95/EC

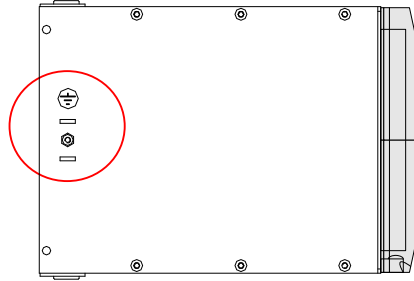
Protective Conductor Terminal (PCT) / Case Grounding / Protective Earth

Location of Protection Conductor Terminal

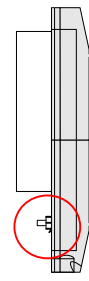
Surface-mounted case



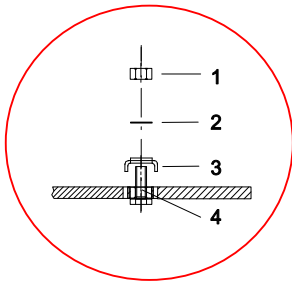
Flush-mounted case




DHMI



Assembly of Protection Conductor Terminal



Pos.	Description
1	Nut M4
2	Tooth lock wash, A4.3
3	Clamp bracket
4	Bolt M4

The protective conductor must be permanently connected to the PCT (Protective Conductor Terminal) to maintain the safety features provided by the design. The clamp bracket is marked with a PCT symbol: . The cross-section of the ground conductor must conform to applicable national standards. A minimum cross-section of 2.5 mm² (US: AWG 14 or higher) is required.

In addition, a protective ground connection at the terminal contact on the power supply module (identified by the letters "PE" on the terminal connection diagram) is required for proper operation of the device. The cross-section of this ground conductor must conform to applicable national standards. A minimum cross-section of 1.5 mm² (US: AWG 16 or higher) is required.

If a detachable HMI is installed, a further protective conductor (ground/earth) of at least 1.5 mm² (US: AWG 16 or higher) must be connected to the DHMI protective conductor terminal to link the DHMI and the main relay case; these must be located within the same substation.

All grounding connections must be low-inductance, i.e. they must be kept as short as possible.

Location

P438 in case 40 TE (left) and in case 84 TE (right)

- Left: 40 TE, CT/VT ring-, I/O pin-terminal connection (P438 -415)
- Right: 84 TE, pin-terminal connection (P438 -416)

01	02	03	04	05	06	07	08	09	10
P	A	A	T		X	X	Y	V	X
	CH1 CH2	CH3	3J 2V		6I 8O	6I 8O	4I 8O		6O
	alt. A							alt. X	
	ETH CH2							4H	
	alt. A							alt. X	
	Red. ETH CH2							6I 3O	
01	02	03	04	05	06	07	08	09	10

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
P	A	A	T				Y		X		X		X		X		X		V	
	CH1 CH2	CH3	3J 2V				4I		6I 8O		6I 8O		6I 8O		6I 8O		6I 8O		4I 8O	
	alt. A																alt. X			
	ETH CH2																4H			
	alt. A																alt. X			
	Red. ETH CH2																6I 3O			
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21

P438 in case 84 TE

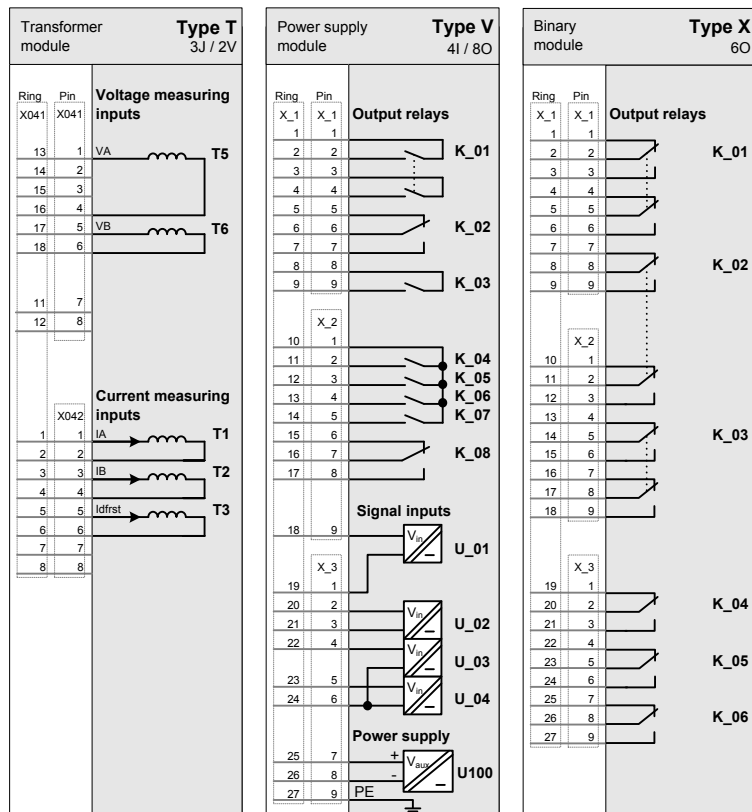
- Ring-terminal connection (P438 -417)

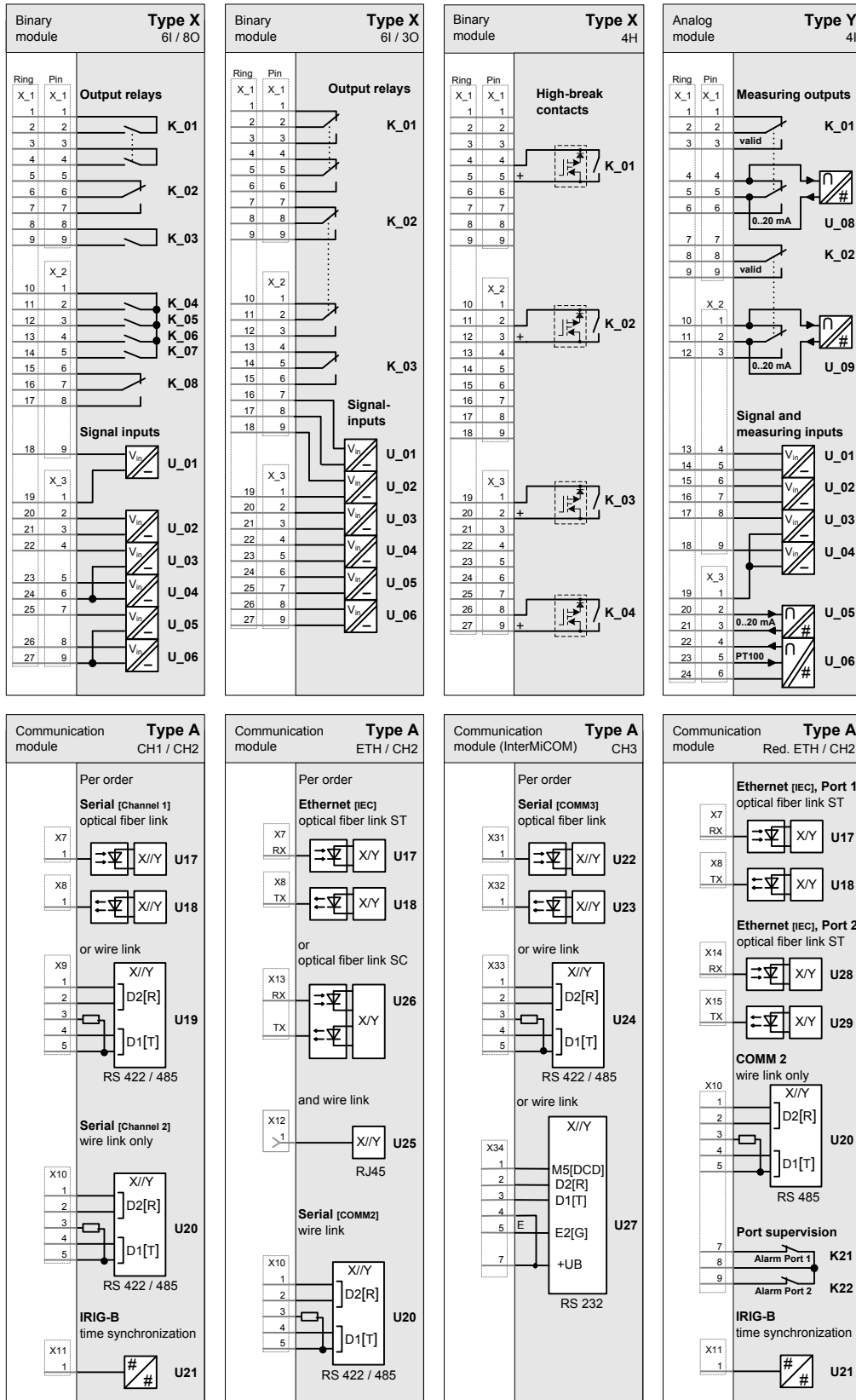
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
P	A	A	T				Y		X		X		X		X		X		V	
	CH1 CH2	CH3	3J 2V				4I		6I 8O		6I 8O		6I 8O		6I 8O		6O		4I 8O	
	alt. A															alt. X				
	ETH CH2															4H				
	alt. A															alt. X				
	Red. ETH CH2															6I 3O				
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21

Each of the numbered slots can be fitted with max. 1 module.

If a location diagram shows several modules for a particular slot, then these are alternatives, depending on the ordering options.

Connection





'_' is used as a wildcard for the location.

See also section "Protection Conductor Terminal (PCT) / Case Grounding / Protective Earth".

Case and Board Assembly

The MiCOM P30 modular and compact range is supplied with torx head screws as listed below for fixing external mechanical parts. Please consider this change to have proper tools available for installation work.

- M2.5 x 6 mm Machine Screw (Torx recess size T8) used for fixing Processor and Comms boards together for module assemblies and for fixing End Plates to Case on Compact builds.
- M3 x 6 mm Machine Screw (Torx recess size T8) used for fixing Processor/Comms boards together for module assemblies.
- M3 x 7 mm Self tapping Screw (Torx recess size T8) used for fixing the HMI Mounting Plate to the Case Assembly, Back Plane PCBA's to the Case Assembly and PCBA Mounting Plates to the Case Assembly
- M4 x 8 mm Taptite Screw (Torx recess size T15) used for fixing the HMI Mounting Plate to the Case Assembly (supplied in Screw Packs 9650546).
- M4 x 12 mm Taptite Screw (Torx recess size T15) used for fixing the Side Plates to the Case Assembly including Compact.
- No.7 x 9.5 mm Self Tapping Reduced Head Screw (Torx recess size T15) used for fixing the Front Mouldings to the Case Assembly.
- No7 x 13 mm Self Tapping Reduced Head Screw (Torx recess size T15) used for fixing the Front Mouldings to the Case Assembly (supplied in Screw Packs 9650546).



Customer Care Centre

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