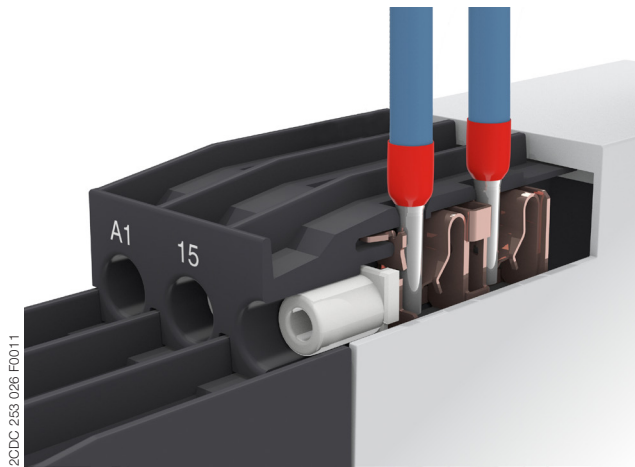


Connection technology

Maintenance free Easy Connect Technology with push-in terminals

Type designation CM-xxS.yyP

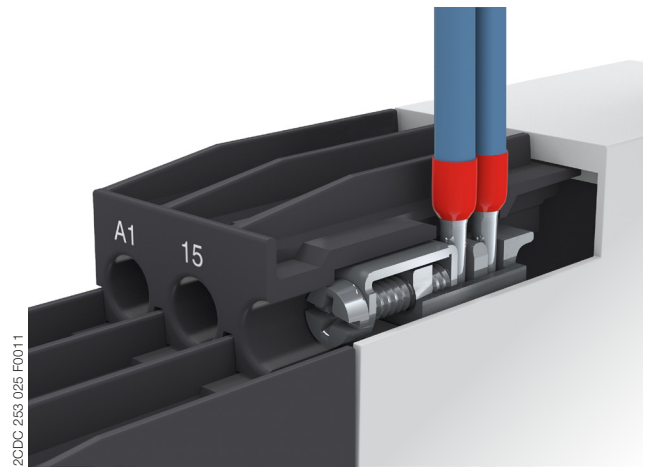


Push-in terminals

- Tool-free connection of rigid and flexible wires with wire end ferrule
- Easy connection of flexible wires without wire end ferrule by opening the terminals
- No retightening necessary
- One operation lever for opening both connection terminals
- For triggering the lever and disconnecting of wires you can use the same tool (Screwdriver according to DIN ISO 2380-1 Form A 0.8 x 4 mm (0.0315 x 0.157 in), DIN ISO 8764-1 PZ1 \varnothing 4.5 mm (0.177 in))
- Constant spring force on terminal point independent of the applied wire type, wire size or ambient conditions (e. g. vibrations or temperature changes)
- Opening for testing the electrical contacting
- Gas-tight

Approved screw connection technology with double-chamber cage connection terminals

Type designation CM-xxS.yyS



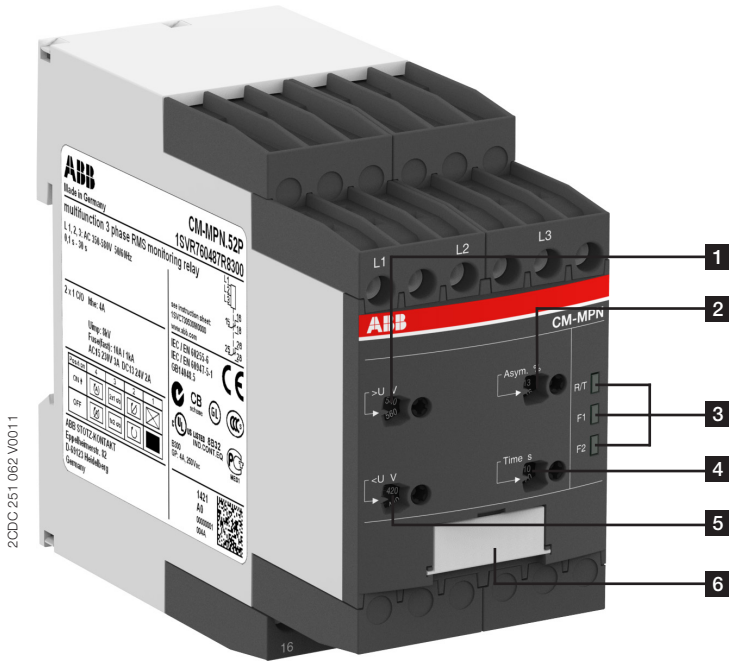
Double-chamber cage connection terminals

- Terminal spaces for different wire sizes
- One screw for opening and closing of both cages
- Pozidrive screws for pan- or crosshead screwdrivers according to DIN ISO 2380-1 Form A 0.8 x 4 mm (0.0315 x 0.157 in), DIN ISO 8764-1 PZ1 \varnothing 4.5 mm (0.177 in)

Both the Easy Connect Technology with push-in terminals and screw connection technology with double-chamber cage connection terminals have the same connection geometry as well as terminal position.

Functions

Operating controls



- 1 Adjustment of the threshold value >U for overvoltage
- 2 Adjustment of the threshold value Asym. for phase unbalance
- 3 Indication of operational states
R/T: yellow LED – Relay status / timing
F1: red LED – Fault message
F2: red LED – Fault message
- 4 Adjustment of the tripping delay T_v
- 5 Adjustment of the threshold value <U for undervoltage
- 6 DIP switches (see DIP switch functions)

Application

The three-phase monitoring relays CM-MPN.x2 are designed for use in three-phase mains for monitoring the phase parameters phase sequence, phase failure, over- and undervoltage as well as phase unbalance.

The CM-MPN.x2 provide an adjustable tripping delay and work according to the closed-circuit principle.

Operating mode

The CM-MPN.x2 have 2 c/o (SPDT) contacts and are available for 3-wire AC systems. The units are adjusted with front-face operating controls. The selection of ON- or OFF- delay, phase sequence monitoring activated or phase sequence monitoring deactivated , 2 x 1 c/o or 1 x 2 c/o (SPDT) contacts as well as automatic phase sequence correction activated or automatic phase sequence correction deactivated is made with DIP switches. Potentiometers, with direct reading scale, allow the adjustment of the threshold values for overvoltage (>U), undervoltage (<U), phase unbalance (Asym %) and the tripping delay T_v . The tripping delay T_v is adjustable over a range of instantaneous to a 30 s delay. Timing is displayed by a flashing yellow LED labelled R/T.

Adjustment potentiometer

Threshold values

By means of three separate potentiometers with direct reading scales, the threshold values for over- and undervoltage as well as for phase unbalance can be adjusted within the measuring range.

	Measuring range for overvoltage	Measuring range for undervoltage	Measuring range for phase unbalance
CM-MPN.52	3 x 480-580 V AC	3 x 350-460 V AC	2-25 % of average of phase voltages
CM-MPN.62	3 x 600-720 V AC	3 x 450-570 V AC	
CM-MPN.72	3 x 690-820 V AC	3 x 530-660 V AC	

Tripping delay T_v

The tripping delay T_v can be adjusted within a range of 0.1 to 30 s by means of a potentiometer with logarithmic scale. By turning to the left stop, the tripping delay can be switched off.