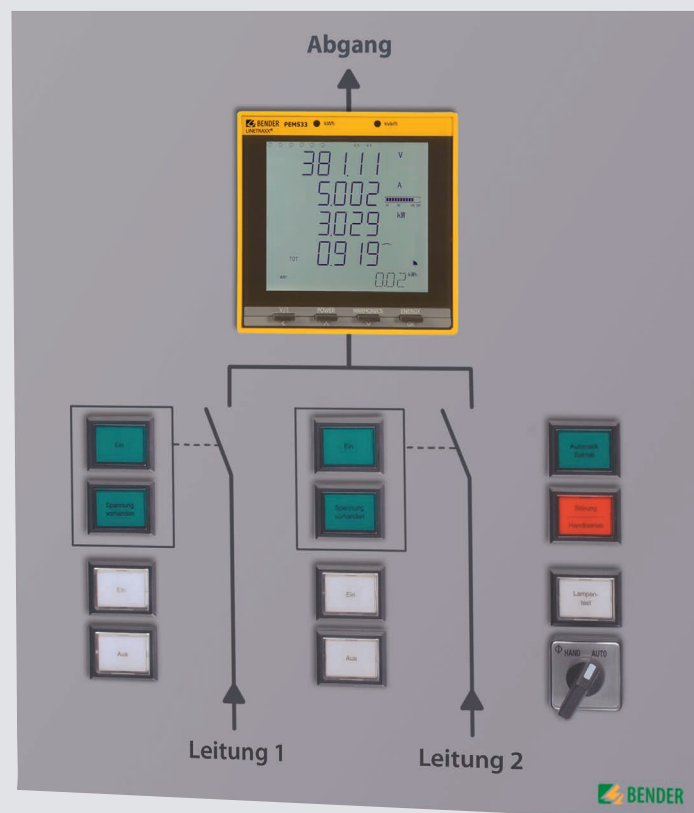


# Alarm and Operator Panel TMX-HA-PQ with Power Quality Monitor

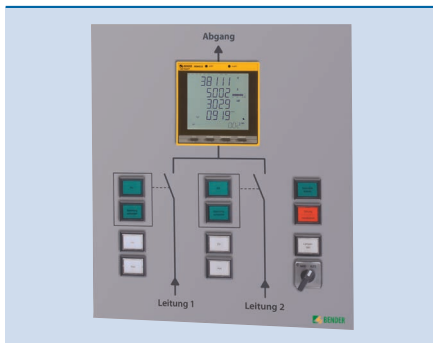
Alarm and operator panel for manual/automatic operation of changeover equipment of the UMC...-HA and USC...-HA series



# Melde- und Bedientableau TMX-HA-PQ

mit Power Quality Messgerät

Alarm and operator panel for manual/automatic operation of changeover equipment of the UMC...-HA and USC...-HA series



TMX-HA

## Characteristics

- Indicator lights for Line 1/2:  
On, Fault, Automatic/Manual mode
- Indicator lights for Line 1/2: voltage present, alternatively: load switch Q1/Q2 triggered
- Pushbutton On/Off Line 1/2
- Toggle switch for manual/automatic changeover
- None reflecting, scratch resistive, silver coloured front foil
- Sturdy 3mm aluminium front plate for mounting in a switchgear door
- With built-in Power Quality Monitor of the PEM series

## Application

The TMX-HA alarm indicator and operator panel is used to select manual or automatic operating mode at the changeover equipment UMC...-HA or the control module USC...-HA.

The panel is recommended to be installed in the cabinet door of the distribution board incorporating the changeover equipment. By means of a toggle switch the manual or automatic mode can be selected. Indicator lights show the respective operating mode.

The digital universal measuring devices of the PEM series are suited for measuring and displaying electrical quantities of a public electricity network.

## Function

Signal lamps show the respective operating mode. An additional signal lamp „Fault/manual mode“ is built-in to signal faults in the switchover equipment. The other signal lamps are designed to indicate the current operating condition of Line 1 and Line 2. The button „lamp test“ is used to check the LEDs function TMX-HA panel.

During normal operation, the operating mode selector switch is in AUTO (automatic) position. The changeover and monitoring module UMC...-HA automatically changes over from Line 1 to Line 2 on failure and back to Line 1 on recovery of the voltage.

When the selector switch is set to manual mode (HAND), the current state of the control system (and hence the condition of the power supply) remains unchanged. Changeover does not take place.

However, it is possible to switch the appropriate control element (and hence the power supply) on or off via the buttons ON/OFF of Line 1 or Line 2. The simultaneous connection of the two lines is prevented by interlocking the control elements against each other.

Changeover to manual mode (HAND) results in an alarm message on the TMX-HA (fault LED) and the connected alarm indicator and test combinations respectively operator panels.

The PEM devices are able to perform current, voltage, energy consumption and performance measurements as well as displaying individual current/voltage harmonics for assessment of the power quality.

For a full functional description refer the detailed technical data sheet and user manual of the PEM device.

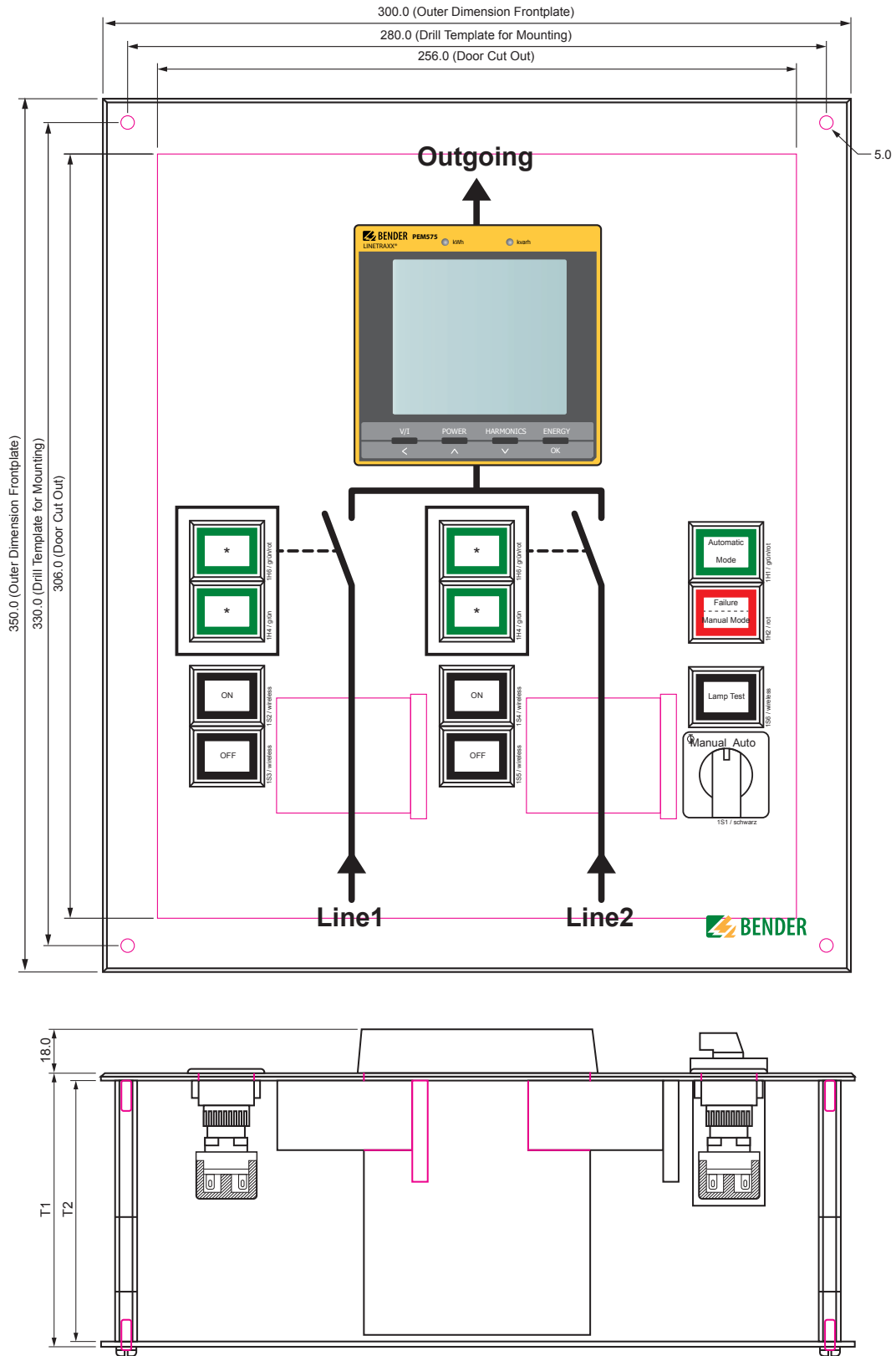
## Important Note

Please refer to the technical datasheets of the PEM device for the requirements of standard measuring current transformers.

The measuring current transformers are not within the scope of delivery.

**Elevation**

Please refer to the detailed elevation drawing which is being provided with the TMX control panel.



TMX-HA-PQ Option with:

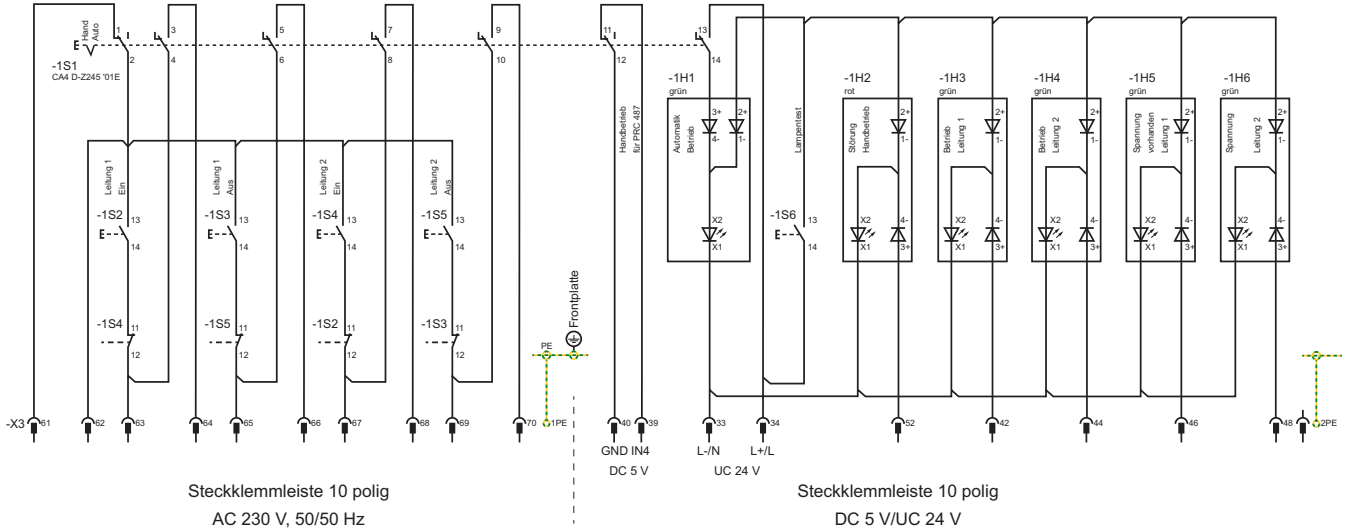
PEM333 T1 = 90 mm, T2 = 85 mm

PEM575 T1 = 110 mm, T2 = 115 mm

## Wiring (principle drawing)

Please refer to the detailed wiring diagram which is being provided with the TMX control panel.

Please refer also to the detailed wiring information given in the PEM data sheet and the PEM user manual.



## Technical Data

### Insulation coordination according to IEC 60664-1

Rated Supply voltage	AC 230 V, 50...60 Hz
Supply voltage of indicators	AC/DC 24 V
Rated impulse voltage/pollution degree	4kV/3

### Environment

EMC immunity	acc. to EN 61000-6-2
EMC emission	acc. to EN 61000-6-4
Shock resistance acc. to IEC 60068-2-27 (device in operation)	15 g/11 ms
Bumping IEC 60068-2-29 (during transport)	40 g/6 ms
Vibration resistance IEC 60068-2-6 (during operation)	1 g/10...150 Hz
Vibration resistance IEC 60068-2-6 (device out of operation)	2 g/10...150 Hz
Ambient temperature, during operation	-5...+55 °C
Storage temperature range	-40...+70 °C
Climatic class acc. to DIN IEC 60721-3-3	3K5

### Connection

Connection	lug-in terminal blocks
Connection rigid/flexible	0.2...4/0.2...2.5 mm <sup>2</sup>
flexible with connector sleeve, without/with plastic sleeve	0.25...2.5 mm <sup>2</sup>
Conductor sizes (AWG)	24...12

### Other

Operating mode	continuous operation
Mounting	any position
Protection class, internal components (DIN EN 60529)	IP30
Degree of protection, terminals (IEC 60529)	IP 20
Protection class	Class I, earthed/grounded
Flammability class	UL94V-0
Weight (incl. PEM)	ca. 2500 g

### Components

Indicator LED "K1 ON"	lettering: ON, K1 ON, Q1 ON
Indicator LED "K2 ON"	lettering: ON, K2 ON, Q2 ON
Two indicator LEDs	lettering: Voltage present
Alternative lettering	Line 1 voltage present
	Line 2 voltage present
	UPS voltage present
when using load switches	Q1, Q2 released
Push button	"On" button Line 1
Push button	"On" button Line 2
Push button	"Off" button Line 1
Push button	"Off" button Line 2
Indicator light	"Fault/Manual mode"
Indicator light	"Automatic mode"
Toggle switch	manual/automatic

**For the full technical data of the built-in PEM Monitor refer to the corresponding data sheet and its user manual.**



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