



### Auxiliary supply

Rated auxiliary supply voltage  $U_s$   
AC

|                                  |     |     |                 |
|----------------------------------|-----|-----|-----------------|
|                                  | min | VAC | 100             |
|                                  | Max | VAC | 440             |
| Auxiliary operating range        |     |     | 90...484VAC     |
| Auxiliary rated frequency        |     | Hz  | 50/60 $\pm$ 10% |
| Power consumption Max            |     | VA  | 9.5             |
| Power dissipation Max            |     | W   | 3.5             |
| Immunity time for microbreakings |     | ms  | <25             |

### Voltage inputs

|                             |  |            |  |
|-----------------------------|--|------------|--|
| Rated voltage ( $U_e$ )     |  | VAC        | 600VAC L-L<br>(rated max)  |
| Operating range             |  |            | 50...720VAC L-L<br>(415VAC L-N)  |
| Frequency range             |  | Hz         | 45...65  |
| Type of measure             |  |            | True RMS value   |
| No-voltage release          |  | ms         | $\geq$ 8   |
| Measurement input impedance |  | k $\Omega$ | >1.10M $\Omega$ L-L,<br>>0.55M $\Omega$ L-N  |
| Type of connection          |  |            | Single phase, two<br>phase, three<br>phase with or<br>without neutral or<br>balanced three<br>phase system |

### Current inputs

|                         |  |       |  |
|-------------------------|--|-------|--|
| Number of current input |  | Nr.   | 1  |
| Type of input           |  |       | Shunt supplied<br>by external<br>current<br>transformer (low<br>voltage). Max 5A |
| Measurement range       |  |       | 0.025...6A~ for<br>5A scale;<br>0.025...1.2A~ for<br>1A scale                    |
| Measurement method      |  |       | True RMS value   |
| Constant overload       |  | $I_e$ | 1.2 $I_e$  |
| Overload peak           |  | A     | 50A for 1s   |
| Burden per phase        |  | W     | <0.6VA   |

### Measurement data

|   |  |              |                  |
|---|--|--------------|------------------|
| Type of voltage and current measurement |  |              | True RMS value   |
| Power factor adjustment                 |  |              | 0.5ind...0.5cap. |
| Type of temperature sensor              |  |              | Internal         |
| Temperature measurement range           |  | $^{\circ}$ C | 0...+212         |

### Relay outputs

|  |        |                                      |
|--|--------|--------------------------------------|
| Number of relay output                     | Nr.    | 5 (up to 8 with EXP10 06 - EXP10 07) |
| Contact arrangement                        |        | 4 NO-SPST + 1 C/O-SPDT               |
| Rated current                              |        | 5A 250V AC1                          |
| UL/CSA and IEC/EN 60947-5-1 designation    |        | B300                                 |
| Maximum current at common contact terminal | A      | 10                                   |
| Maximum switching voltage                  | VAC    | 415                                  |
| Electrical life (with rated load)          | cycles | 10 <sup>5</sup>                      |
| Mechanical life                            | cycles | 10 <sup>7</sup>                      |

### Insulations

|                                       |    |     |
|---------------------------------------|----|-----|
| Rated insulation voltage Ui IEC/EN    | V  | 600 |
| Rated impulse withstand voltage Uimp  | kV | 9.5 |
| Operating frequency withstand voltage | kV | 5.2 |

### Functions

|   |     |
|---|-----|
| Automatic recognition of current flow direction                                       | Yes |
| 4-quadrant operation  | Yes |
| Master-Slave function   | No  |
| Independent auxiliary supply input  | Yes |
| Three-phase voltage control   | No  |
| Current inputs  | 1   |
| Dynamic (FAST) power factor correction  | No  |
| Power factor correction by single phase   | No  |
| Possibility of connecting inductive steps   | No  |
| Possibility of use in medium voltage  | Yes |
| Possibility of phase-neutral insertion on a three-phase system                        | Yes |
| Analog outputs  | No  |
| Input programmable as function or external temperature sensor                         | No  |
| USB communication interface   | No  |
| RS232 communication interface   | Yes |
| Opto-isolated RS485 communication interface   | Yes |
| Ethernet communication interface  | Yes |
| Opto-isolated Profibus-DP interface   | No  |
| GPRS/GSM modem  | No  |
| Optical port on front for the connection of USB devices                               | Yes |
| Optical port on front for the connection of Wi-Fi devices                             | Yes |
| Fast setting of current transformer   | Yes |
| Compatible with Xpress configuration and remote control software                      | Yes |
| Compatible with Synergy and Synergy Cloud, supervision and energy management software | Yes |
| Compatible with Sam1 App  | Yes |
| Calendar-clock with backup reserve power  | No  |
| Data logging memory   | No  |
| Event logging: alarms, setup changes, etc.  | No  |
| Customisable internal counters  | No  |

### Connections

|                         |                    |                 |     |
|-------------------------|--------------------|-----------------|-----|
| Type of terminal        | Plug-in, removable |                 |     |
| Conductor cross section | min                | mm <sup>2</sup> | 0.2 |
|                         | Max                | mm <sup>2</sup> | 2.5 |

|                         |     |      |                                   |
|-------------------------|-----|------|-----------------------------------|
|                         | min | AWG  | 24AWG (18AWG according to UL/CSA) |
|                         | Max | AWG  | 12                                |
| Tightening torque (Max) |     | Nm   | 0.56                              |
|                         |     | lbin | 5                                 |

### Ambient conditions

#### Temperature

##### Operating temperature

|     |    |     |
|-----|----|-----|
| min | °C | -20 |
| max | °C | +60 |

##### Storage temperature

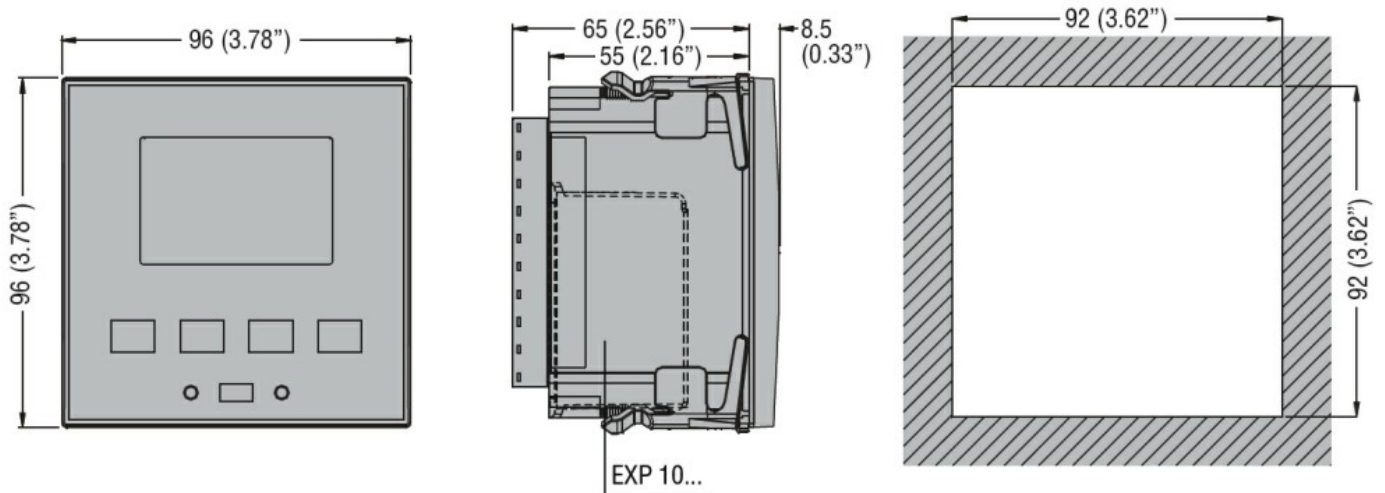
|     |    |     |
|-----|----|-----|
| min | °C | -30 |
| max | °C | +80 |

|                          |   |                            |
|--------------------------|---|----------------------------|
| Relative humidity        | % | <80%                       |
| Maximum Pollution degree |   | 2                          |
| Overvoltage category     |   | 3                          |
| Measurement category     |   | III                        |
| Climatic sequence        |   | Z/ABDM (IEC/EN 60068-2-61) |
| Shock resistance         |   | 15g (IEC/EN 60068-2-27)    |
| Vibration resistance     |   | 0.7g (IEC/EN 60068-2-6)    |

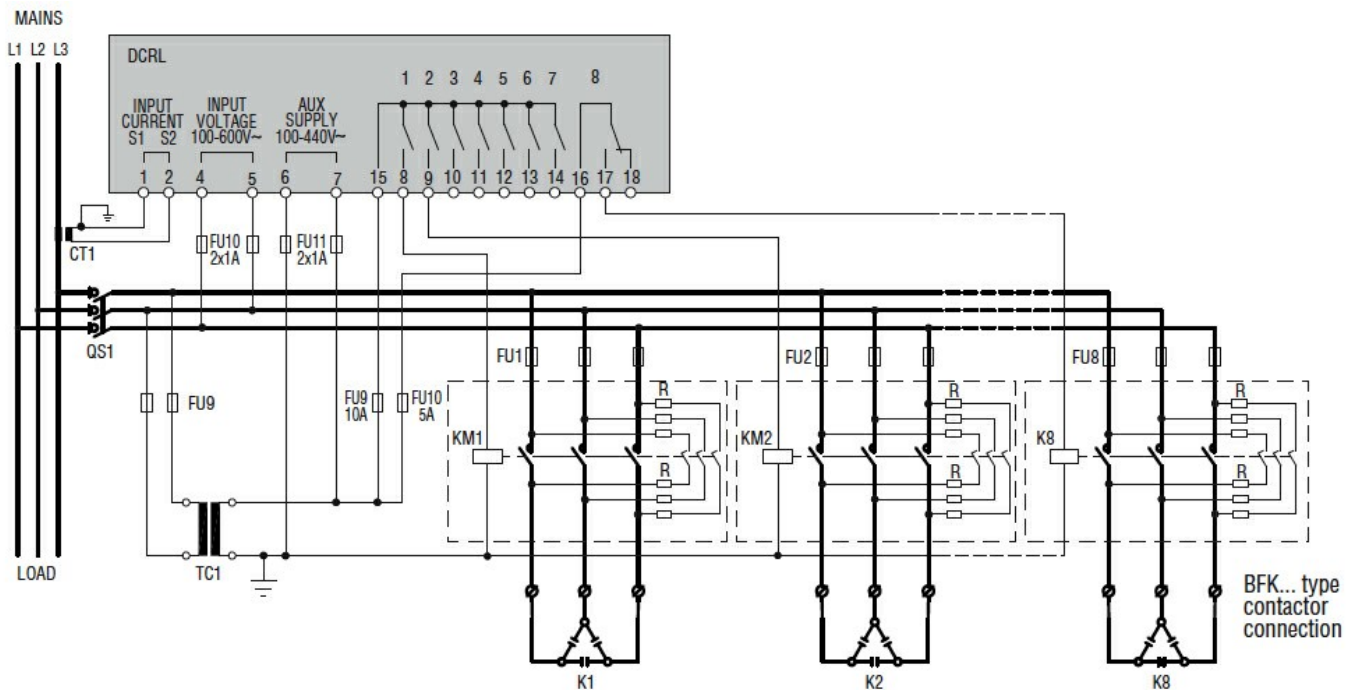
### Housing

|                        |    |   |
|------------------------|----|---|
| Execution              |    | Flush mount   |
| Material               |    | Polycarbonate   |
| Mounting               |    | Flush-mount<br>96x96mm<br>(3.78x3.78")  |
| Degree of protection   |    | IP54 on front with gasket, if mounted in class IP54 panel or better. IP20 terminals |
| Dimensions (W x H x D) | mm | 96 x 96 x 73.5  |
| Weight                 | g  | 340   |

### Dimensions



**Wiring diagrams**



**Certifications and compliance**

**Compliance**

- CSA C22.2 n°14
- IEC/EN 61000-6-2
- IEC/EN 61000-6-4
- IEC/EN 61010-1
- IEC/EN 61010-2-030
- UL 508

**Certificates**

- cULus
- EAC
- RCM

**ETIM classification**

ETIM 8.0

EC001443 -  
Effective power  
(cos phi)  
monitoring relay