



Automatic power factor controller, 3 steps, icon display  
DCRL3

Product designation

Product type designation

**Auxiliary supply**

Rated auxiliary supply voltage  $U_s$

AC

min VAC 100

Max VAC 440

DC

min VDC 110

Max VDC 250

Auxiliary operating range

90...484VAC /  
93.5...300VDC

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  
(rated max)

Operating range

50...720VAC L-L  
(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,  
>0.55M $\Omega$  L-N

Type of connection

Single phase, two  
phase, three  
phase with or  
without neutral or  
balanced three  
phase system

**Current inputs**

Number of current input

Nr. 1

Type of input

Shunt supplied  
by external  
current  
transformer (low  
voltage). Max 5A

Measurement range

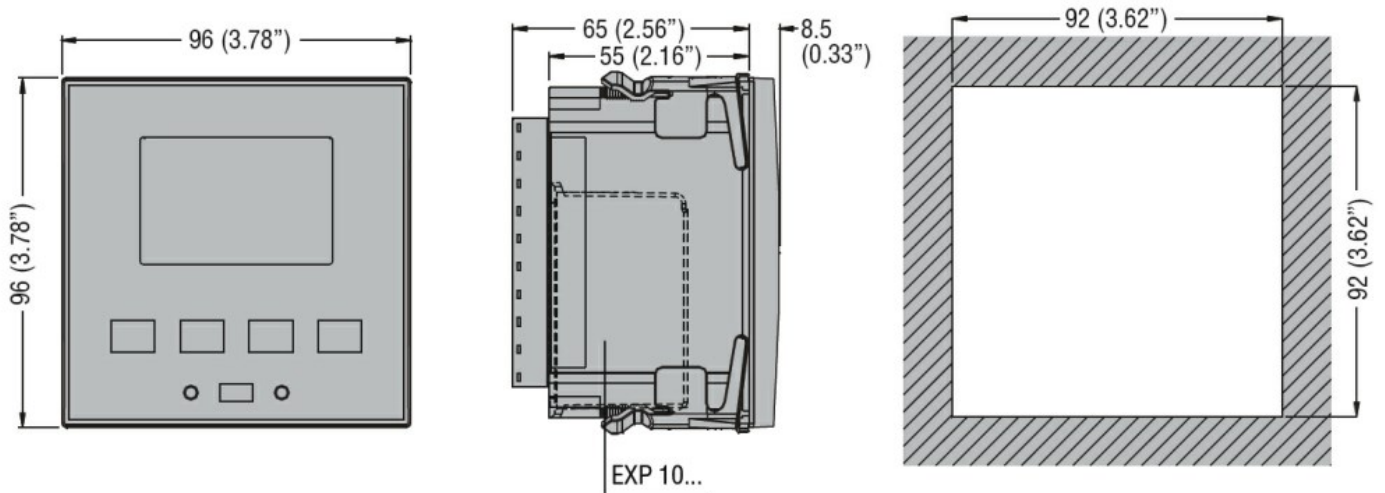
0.025...6A~ for  
5A scale;  
0.025...1.2A~ for  
1A scale

Measurement method

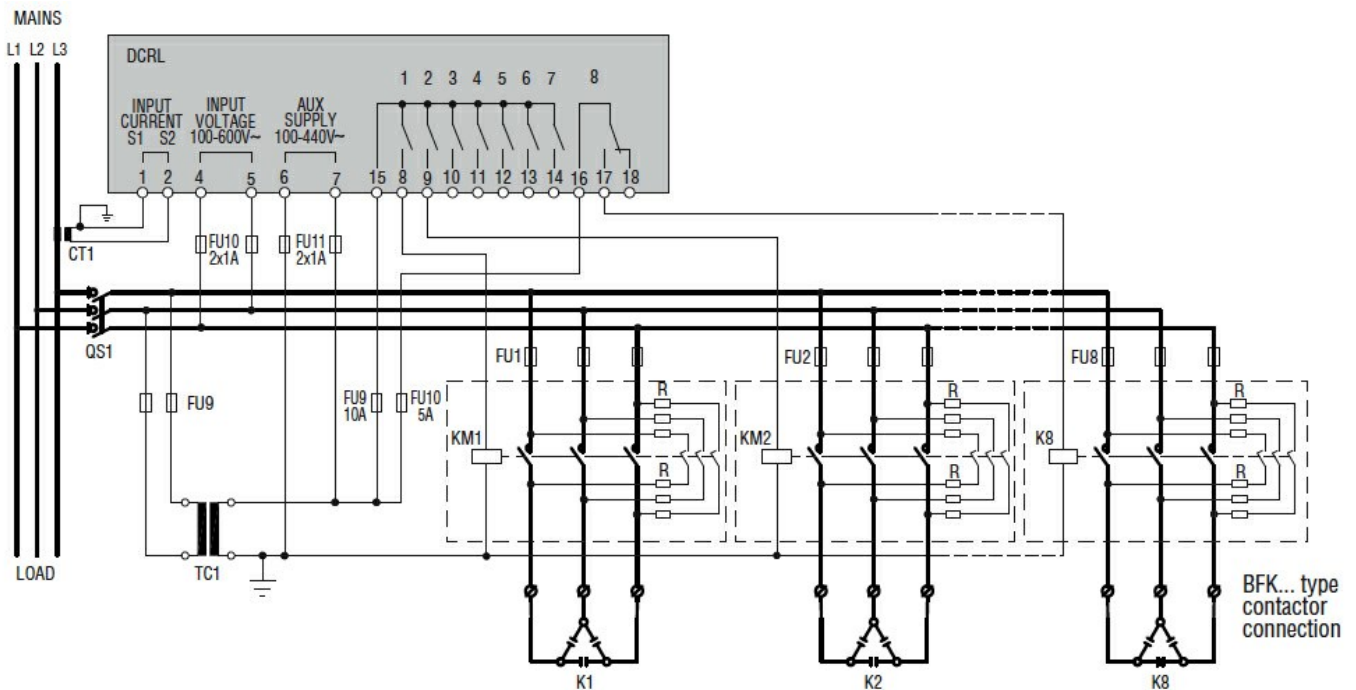
True RMS value

Constant overload	le	1.2 le
Overload peak	A	50A for 1s
Burden per phase	W	<0.6VA
<b>Measurement data</b>		
Type of voltage and current measurement		True RMS value
Power factor adjustment		0.5ind...0.5cap.
Type of temperature sensor		Internal
Temperature measurement range	°C	0...+212
<b>Relay outputs</b>		
Number of relay output	Nr.	3 (up to 6 with EXP10 06 - EXP10 07)
Contact arrangement		2 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>
<b>Insulations</b>		
Rated insulation voltage Ui IEC/EN	V	600
Rated impulse withstand voltage Uimp	kV	9.5
Operating frequency withstand voltage	kV	5.2
<b>Functions</b>		
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 USB communication port on front		No
Optical Wi-Fi communication port on front		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
<b>Connections</b>				
Type of terminal				Plug-in, removable
Conductor cross section				
	min	mm <sup>2</sup>	0.2	
	Max	mm <sup>2</sup>	2.5	
			24AWG (18AWG according to UL/CSA)	
	min	AWG		
	Max	AWG	12	
Tightening torque (Max)			Nm	0.56
			lbin	5 (4-5 according to UL/CSA)
<b>Ambient conditions</b>				
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)
<b>Housing</b>				
Execution				Flush mount
Material				Polycarbonate
Mounting				Flush-mount 96x96mm (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	
<b>Dimensions [mm (in)]</b>				



**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