



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

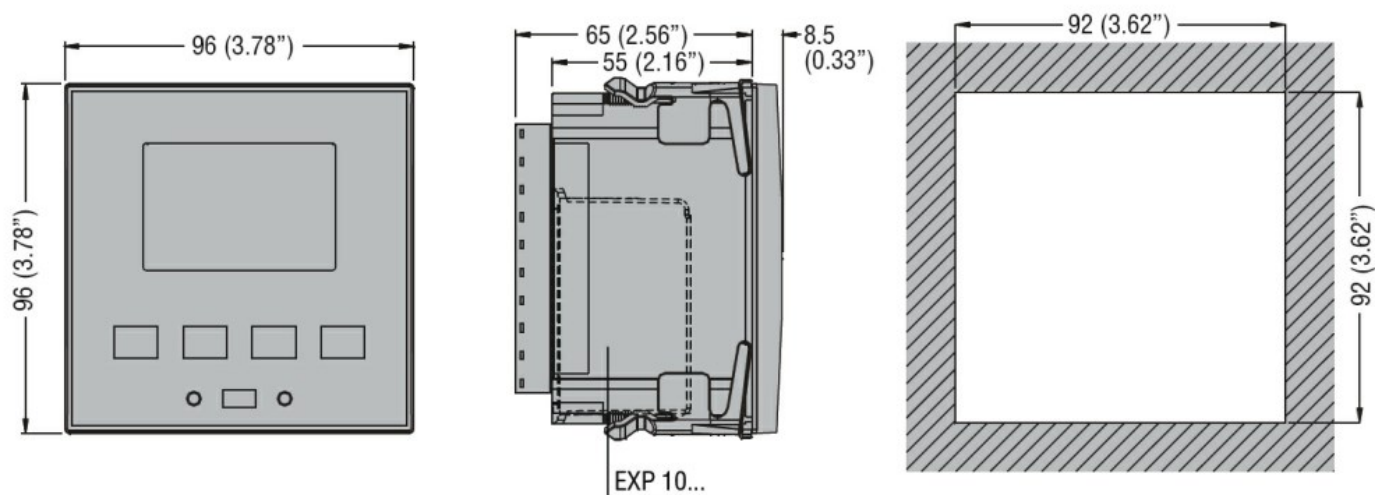
0.025...6A~ for 5A scale;  
0.025...1.2A~ for 1A scale

Measurement method

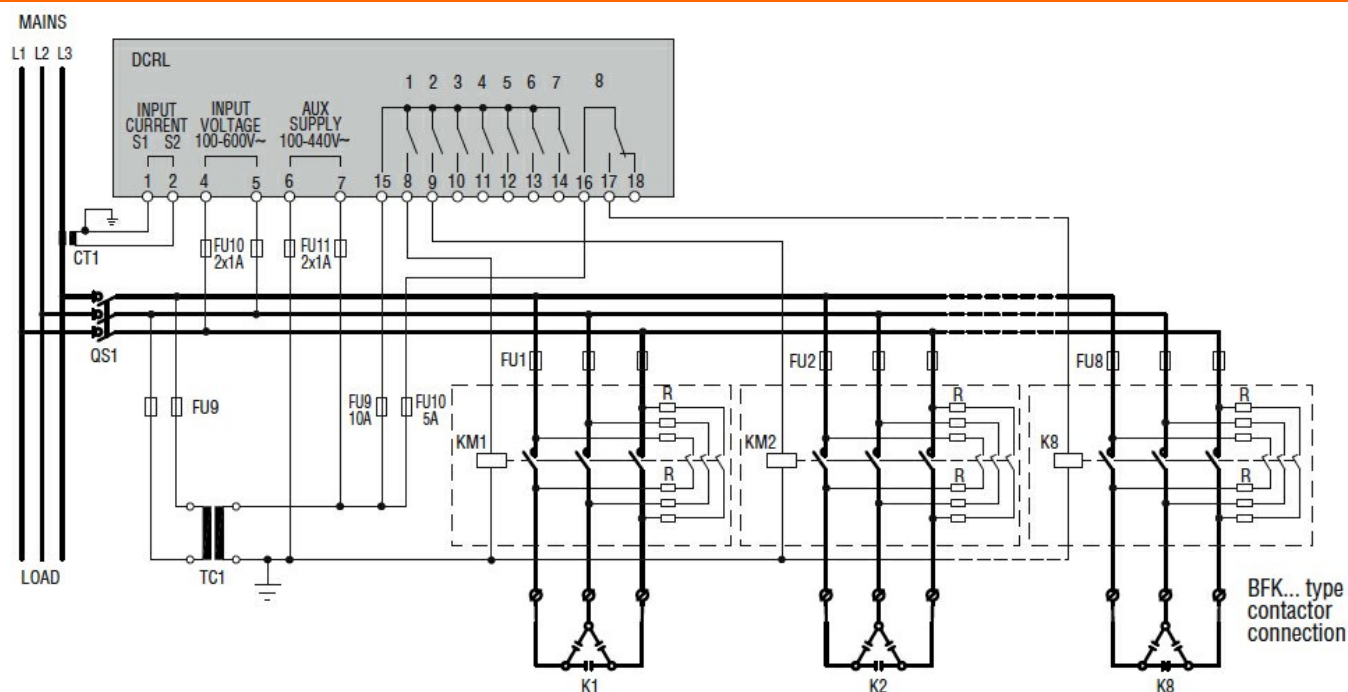
True RMS value

Constant overload	I <sub>e</sub>	1.2 I <sub>e</sub>
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 U <sub>i</sub> IEC/EN	V	600
Rated impulse withstand voltage U <sub>imp</sub>	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		
Connections					
Type of terminal			Plug-in, removable		
Conductor cross section			min	mm²	0.2
			Max	mm²	2.5
			min	AWG	24AWG (18AWG according to UL/CSA)
			Max	AWG	12
Tightening torque (Max)			Nm	0.56	
			lbin	5 (4-5 according to UL/CSA)	
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 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
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