



Automatic
dynamic power
factor controller,
8 static steps,
graphic display
DCRG8F

Product designation

Product type designation

Auxiliary supply

Rated auxiliary supply voltage U_s

AC

min	VAC	100
Max	VAC	415

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 27 (with 4 EXP
modules)

Power dissipation Max

W 10.5 (with 4 EXP
modules), 2.5
(with no EXP
modules)

Immunity time for microbreakings

ms ≥ 35 ms (110VAC);
 ≥ 80 ms (220...
415VAC)

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 Hz /
360...440 Hz

Type of measure

True RMS value

No-voltage release

ms ≥ 8

Measurement input impedance

k Ω $> 1.10\text{M}\Omega$ L-L,
 $> 0.55\text{M}\Omega$ 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. 3

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 _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 + PT100 with EXP1004
Temperature measurement range	°C	0...+212
Relay outputs		
Number of relay output	Nr.	0 (up to 10 with EXP10 06 - EXP10 07)
UL/CSA and IEC/EN 60947-5-1 designation		B300
Static Outputs		
Number of static output		8 (up to 24 with EXP1001)
Rated current		120mA max 40VDC/30VAC
Insulations		
Rated insulation voltage U _i IEC/EN	V	600
Rated impulse withstand voltage U _{imp}	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		Yes
Independent auxiliary supply input		Yes
Three-phase voltage control		Yes
Current inputs		3
Dynamic (FAST) power factor correction		Yes
Power factor correction by single phase		Yes
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		Yes
Input programmable as function or external temperature sensor		Yes
USB communication interface		Yes
RS232 communication interface		Yes
Opto-isolated RS485 communication interface		Yes
Ethernet communication interface		Yes
Opto-isolated Profibus-DP interface		Yes
GPRS/GSM modem		Yes
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	Yes
Data logging memory	Yes
Event logging: alarms, setup changes, etc.	Yes
Customisable internal counters	Yes

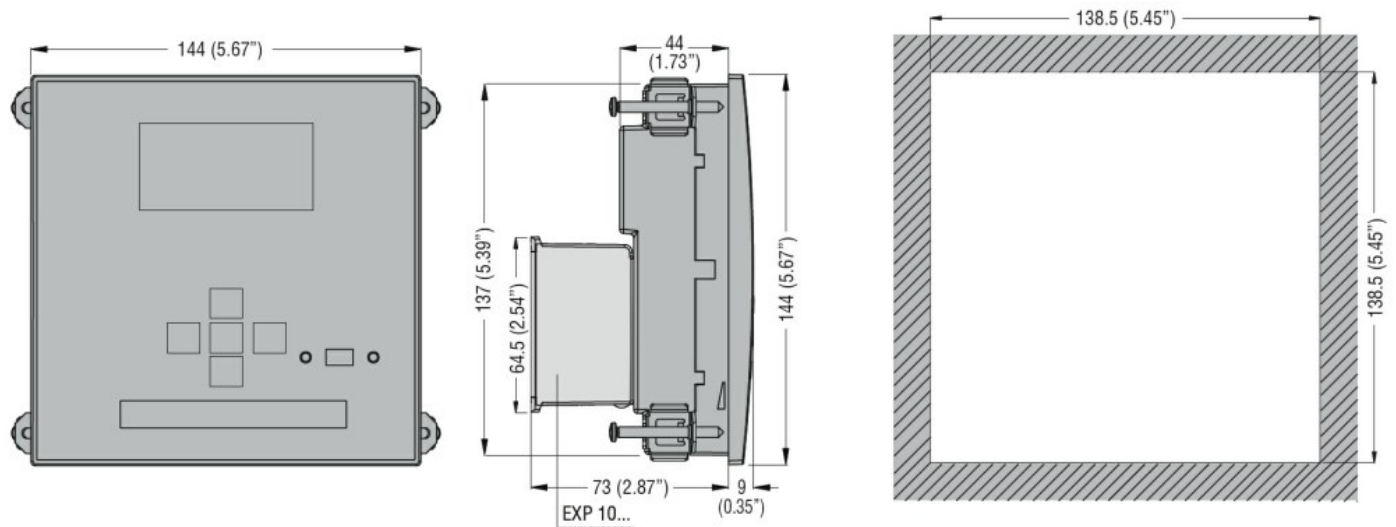
Connections

Type of terminal	Plug-in, removable
Conductor cross section	
	min mm ² 0.2
	Max mm ² 2.5
	min AWG 24AWG (18AWG according to UL/CSA)
	Max AWG 12
Tightening torque (Max)	
	Nm 0.56
	lbin 5lbin (4-5lbin according to UL/CSA)

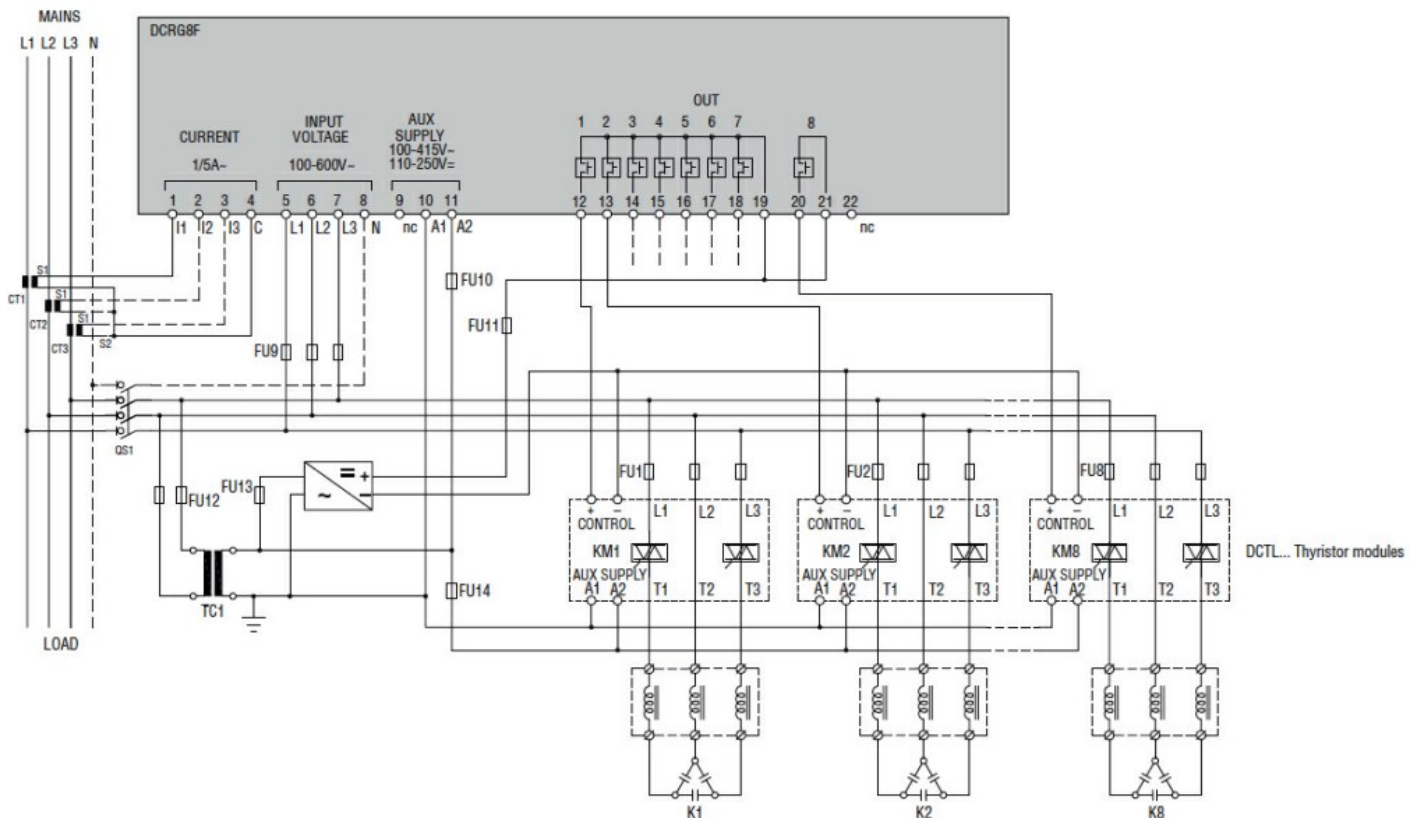
Ambient conditions

Temperature	
Operating temperature	
	min °C -20
	max °C +70
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 144x144mm (5.67x5.67")
Degree of protection	IP65 on front, IP20 terminals
Dimensions (W x H x D)	mm 144 x 144 x 53.2
Weight	g 980

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
UL508

Certificates

cULus
EAC
RCM

ETIM classification

ETIM 8.0

EC001443 -
Effective power
(cos phi)
monitoring relay