

AUTOMATIC POWER FACTOR CONTROLLERS

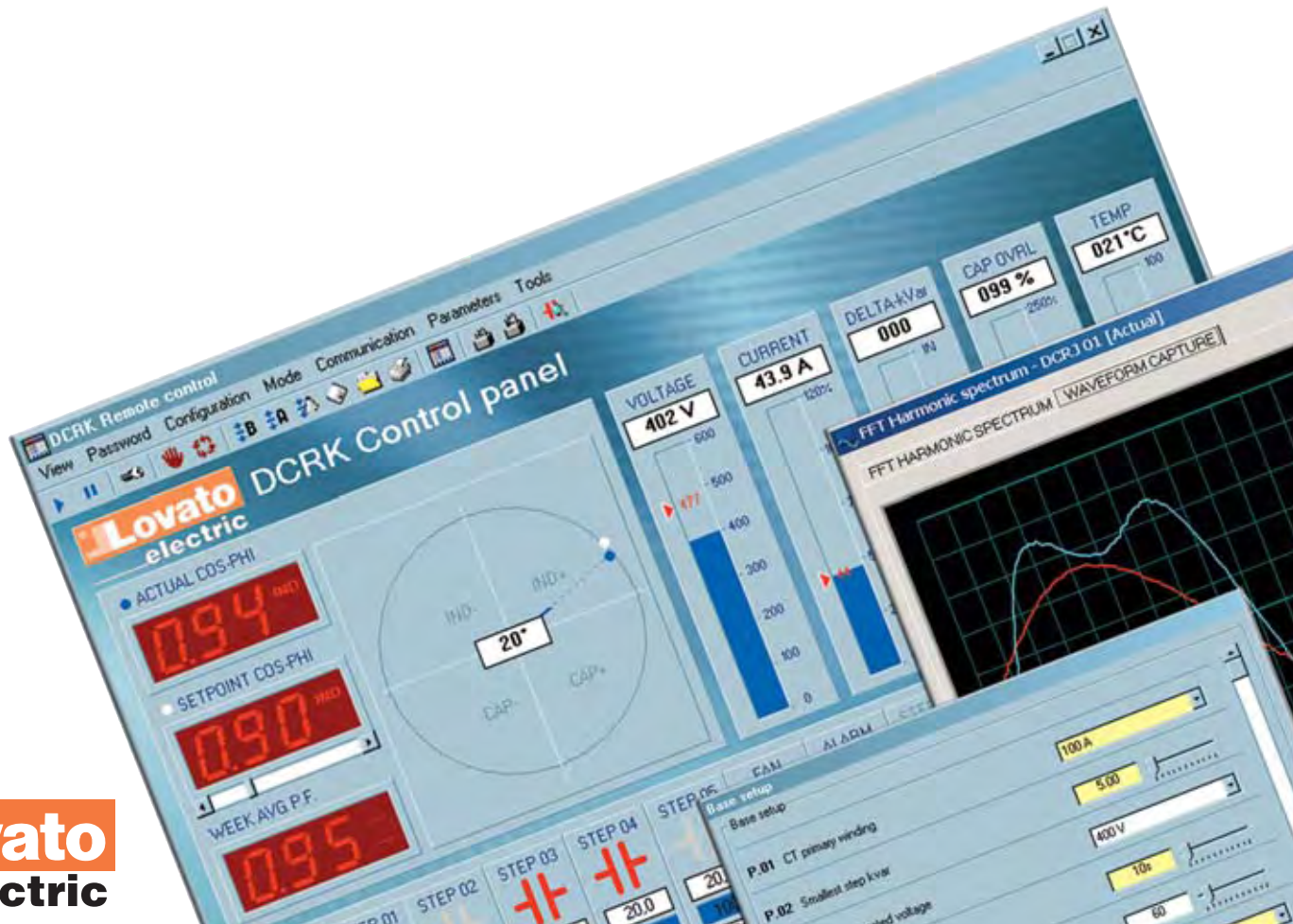
- ◆ *Microprocessor supervision and control*
- ◆ *Accurate current evaluation with RMS readings*
- ◆ *Automatic intelligent adjustment*
- ◆ *Version with 5, 7, 8 or 12 steps*
- ◆ *Use in co-generation systems*
- ◆ *Communication serial interfaces*
- ◆ *ASCII and Modbus®-RTU communication protocols.*



PLANET - LOGIC

Automatic power factor controllers

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DCRK Series



DCRK5



DCRK8

Flush-mount housing size	Steps	Catalog number	Price
[mm]	n°		\$ each
96x96	5	DCRK 5 460	480.00
96x96	7	DCRK 7 460	540.00
144x144	8	DCRK 8 460	765.00
144x144	12	DCRK 12 460	885.00

96x96mm = 3.78x3.78in
144x144mm = 5.67x5.67in

Description	Catalog number	Price
		\$ each

Software.		
Set-up and automatic test software complete with 51 C11 connecting wire	DCRK SW	430.00
Accessories and spare parts.		
PC ↔ DCRK connecting wire for TTL/RS232 communication port, 9ft (2.8m) long	51 C11	230.00
IP54 front sealable cover for DCRK5 and DCRK7	31 PA96X96	34.00
IP54 front protective cover for DCRK8 and DCRK12	31 PACR	40.00

Example of main window frame using DCRK SW software



General characteristics

- 5, 7, 8 and 12 step versions, the last two of which are programmable as alarm and/or fan control
- Digital microprocessor regulator for automatic power factor correction systems with output relays for the connection and disconnection of capacitor banks
- For co-generation systems; 4 quadrant operation
- Accurate and reliable power factor control of a system even in presence of high current and voltage harmonic content
- Provides for increased capacitor life by intelligent control of the capacitor operation and connection time
- RMS voltage and current measurements
- Average weekly power factor measurement (last 7 days)
- Adjustable tripping sensitivity, integral switching time
- Adjustable reconnection time delay
- No-voltage release protection
- Protection against capacitor overload and panel overheating
- Automatic set-up function
- TTL-RS232 interface with personal computer for: fast set-up, function and alarm personalizing and automatic electric panel testing
- Installation ease with the use of one external current transformer only.

Operational characteristics

- Voltage circuit
 - Input and control power Ue: 440-480VAC (220-240VAC or 380-415VAC or 480-525VAC on request)
 - Rated frequency: 50/60Hz ±1% self configurable
 - Power consumption: 6.2VA (DCRK5 and DCRK7) 5VA (DCRK8 and DCRK12)
- Current circuit
 - Rated current Ie: 5A (1A on request)
 - Overload peak: 20Ie for 10ms
 - Power consumption: 0.65W
- Measurements and controls
 - Power factor adjustment: 0.8 inductive - 0.8 capacitive
 - Voltage measurement range: -15 to +10% Ue
 - Current measurement range: 2.5 to 120% Ie
 - Temperature measurement range: -22 to +185°F (-30 to +85°C)
 - Capacitor overload current range: 0-250%
 - Type of voltage and current measurement: RMS
 - Reconnection time of same step: 5-240s
 - Tripping sensitivity: 5-600s/step
- Output relays
 - 5, 7, 8 or 12 steps, the last of which is isolated
 - Contact configuration: Normally Open (NO); the last contact of DCRK8-DCRK12 is double throw
 - Rated current Ith: 5A 250VAC (AC1)
 - Maximum capacity of common terminal: 12A
 - Rated operational voltage: 250VAC
 - UL designation: B300
 - Maximum switchable voltage: 440VAC
- Housing
 - Flush mounting
 - Degree of protection on front: IP54 for DCRK5 and DCRK7. IP41 for DCRK8 and DCRK12; IP54 with protective cover

Certifications and compliance

UL listed for USA and Canada, File E93601. Compliant with standards: IEC/EN 61010-1, IEC/EN 61000-6-2, CISPR 11/EN 55011.

Special contactors for power factor correction

See section 3, page 3-8.

DCRJ series



DCRJ8

Flush-mount housing size [mm]	Steps n°	Catalog number	Price \$ each
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Version with relay outputs.			
144x144	8	DCRJ 8	1235.00
144x144	12	DCRJ 12	1320.00

Version with static outputs.			
144x144	11+1 relay output	DCRJ12F	1650.00

144x144mm = 5.67x5.67in

Description	Catalog number	Price \$ each
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Software.		
Set-up / automatic test / remote control software complete with 51 C2 connecting wire	DCRJ SW	950.00

Accessories and spare parts.		
PC ↔ DCRJ connecting cable, 6ft (1.8m) long	51 C2	60.00
PC ↔ 4 PX1 converter connecting cable, 6ft (1.8m) long	51 C4	65.00
DCRJ ↔ Analog modem connecting cable, 6ft (1.8m) long	51 C5	69.00
4 PX1 ↔ Analog modem connecting cable, 6ft (1.8m) long	51 C9	83.00
RS232/RS485 converter drive, opto-isolated, 110-120VAC	4 PX1 115	707.00
Temperature sensor	NTC 01	36.00
Front protective cover, IP54 protection	31 PACR	40.00

- ① "3Com-U.S. Robotics" 56k V.92 modem with RS232 interface, complete with PC connecting cable, compatible with LOVATO ELECTRIC remote control software.
- ② RS232/RS485 opto-isolated converter drive, 38,400 Baud-rate maximum, automatic or manual TRANSMIT line supervision.

General characteristics

- 8 and 12 step versions (DCRJ8-DCRJ12), the last two of which are programmable as alarm and/or fan control
- Version (DCRJ12F) with 11 static output plus 1 alarm relay output
- Digital microprocessor regulator for automatic power factor correction systems with output relays for the connection and disconnection of capacitor banks
- For medium voltage systems (separate voltage input) and co-generation (4 quadrant operation)
- Accurate and reliable power factor control of a system even in presence of high current and voltage harmonic content
- Provides for increased capacitor life by intelligent control of the capacitor operation and connection time
- RMS voltage and current measure
- Measure of average weekly power factor (last 7 days), capacitor overload, electric panel temperature, voltage and current harmonic content
- Event viewing when harmonic overload limit exceeded
- Harmonic content analysis of logged events complete with relative waveforms
- Adjustable tripping sensitivity, integral switching time
- Adjustable reconnection time delay (DCRJ8-DCRJ12)
- No-voltage release protection
- Protection against capacitor overload and panel overheating
- Panel temperature sensor
- Connection to remote NTC temperature sensor
- Automatic set-up function (programmable on DCRJ8 and DCRJ12)
- RS232 and RS485 serial ports
- Remote supervision software for personal computer interface and supervision for: fast set-up, function and alarm customising and automatic electric panel testing
- Modbus®-RTU and ASCII communication protocols
- Configuration of mixed static and electromechanical steps (DCRJ12F).

Operational characteristics

- Supply circuit
 - Dual control power Ue: 110-127 / 220-240VAC
 - Rated frequency: 50/60Hz ±5% self configurable
 - Power consumption: 9.7VA for DCRJ8-DCRJ12; 9.2VA for DCRJ12F
- Voltage circuit
 - Three phases without neutral
 - Measuring rated voltage: 100-690VAC
- Current circuit
 - Rated current Ie: 5A (1A on request)
 - Overload peak: 20Ie for 10ms
 - Power consumption: 0.3VA
- Measurements and controls
 - Type of voltage and current measurement: RMS
 - Voltage measurement range: 85-760VAC
 - Current measurement range: 2.5 to 120% Ie
 - External temperature measurement range: -40 to +185°F (-40 to +85°C)
 - Capacitor overload current range: 0-250%
 - Power factor adjustment: 0.8 inductive - 0.8 capacitive
 - Reconnection time of same step: 5-240s for DCRJ8-DCRJ12 only
 - Tripping sensitivity: 5-600s/step
 - Sampling time: ≈20ms for DCRJ12F
- Output relays for DCJ8-DCRJ12
 - 8 or 12 steps, the last of which is isolated
 - Contact configuration: Normally Open (NO); the last of which is double throw
 - Rated current Ith: 5A 250VAC (AC1)
 - Maximum capacity of common terminal: 12A
 - Rated operational voltage: 250VAC
 - UL designation: B300
 - Maximum switchable voltage: 440VAC
- Outputs for DCRJ12F
 - 11 static outputs for static contactors control
 - 1 alarm relay output
 - Opto-isolated bi-directional static outputs (Opto-Mosfet)
 - Maximum operational voltage: 40VDC; 30VAC
 - Maximum operational current: 55mA
- Housing
 - Flush mounting
 - Degree of protection on front: IP41; IP54 with protective cover.

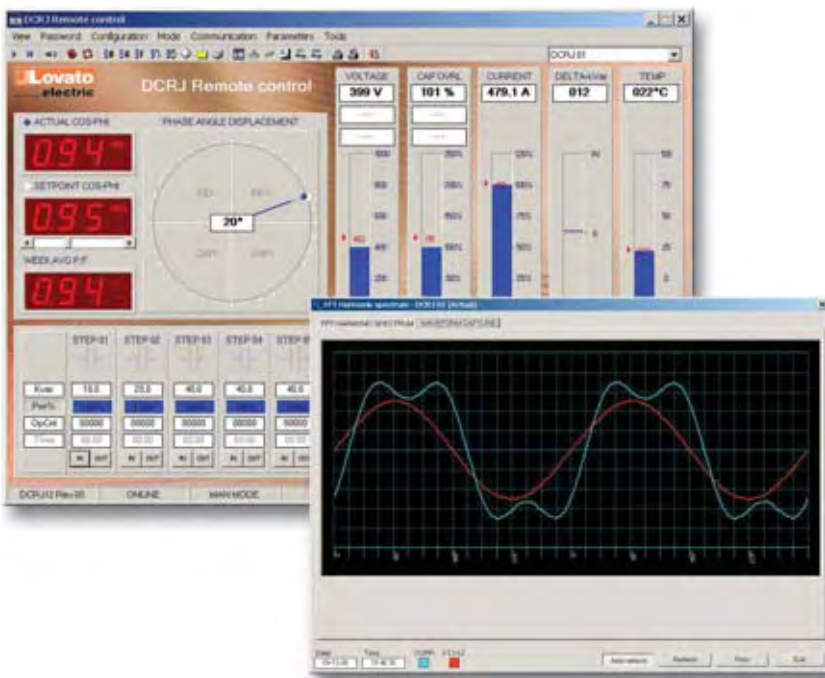
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Special contactors for power factor correction

See section 3, page 3-8.

Example of main window frame using DCRJ SW software





PAGE 16-2

ATL20

- Automatic transfer switch controller with RS232 port
- AC/DC auxiliary supply.



PAGE 16-3

ATL30

- Automatic transfer switch controller with RS232 and RS485 ports
- Real time clock
- AC/DC auxiliary supply.

AUTOMATIC TRANSFER SWITCH CONTROLLERS

- ◆ Supervision of two supply lines
- ◆ Emergency demand supervision for stand-by generating set
- ◆ Supervision of motorized manual starters
- ◆ Event logging
- ◆ TRMS measures of voltage values
- ◆ Microprocessor remote control and supervision
- ◆ RS232 and RS485 serial ports
- ◆ Modbus®-RTU and Modbus®-ASCII communication protocols
- ◆ Real time clock.



Automatic transfer switch controllers

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