

DIGITAL POWER FACTOR CONTROLLER

DCRE Series



DCRE7



DCRE12

The **DCRE** is used to continuously monitor and improve Power Factor. A new generation of digital technology and true RMS measurement of current Active/Reactive Power, enables accurate calculation of Power Factor.

The **DCRE** offers unique features such as a Total Harmonic Distortion Alarm which can be used to trip capacitor banks when harmonic values increase above allowed levels (in applications using large frequency inverters, DC power supplies, etc.)

Advantages at a Glance

- True RMS voltage and current measurement, designed to operate in any industrial environment.
- Simple settings, automatic C/K adjustment, only 8 parameters need to be adjusted in standard systems.
- Historical P.F. display according to accumulated Active and Reactive Energies since last "Reset", allow comparison with utility's P.F. calculation.
- Measured/displayed THD with adj up 31st. alarm level
- Control voltages 230-400V, 50/60Hz
- Minimum measured current at 0.5%
- Optional -RS485 communication (MODBUS-RTU)
- Standards : EN 61010, EN 50081-2, IEC 384, VDE 0843, UL 94

Switching Optimization

- One or Four quadrant system (software elected) with automatic correction in case of wrong C/T connection. Four quadrant in case of generated power.
- User selected switching modes (including FIFO) with adjustable time delay for "First Add Capacitor" step and between steps.
- Automatic override of small step switching, in the case of large demand, minimizes switching which extends life expectancy of capacitors and contactors.
- Prevents capacitors re-switching, for a 60 sec time delay, ensuring voltage was sufficiently reduced.
- Immediate trip of all steps in case of voltage outage. Automatic re-switching of connected steps after voltage restoration.

THD Alarm

- Rapid action for increased capacitor protection

Displays

- Power Factor ($\cos \theta$)
- Voltage (V)
- Current (A)
- Power (KW)
- Active Power (KVA)
- Reactive Power (KVAR)
- Harmonics (V-THD% , A-THD%) up 31st
- Frequency (HZ)

Technical Characteristics

| | |
|--------------------------------------|-------------------------------|
| Dual voltage (*) | 230/400 VAC $\pm 10\%$ |
| Frequency | 45 - 65 Hz |
| Power consumption in voltage circuit | 5 VA |
| Power consumption in current circuit | 0.5 VA |
| Externacurrent transformer | .../5A (I _{max} 6A) |
| Current circuit | Isolated |
| Switching program | FIFO |
| $\cos \phi$ adjust | 0.50 IND - 0.50 CAP |
| Reading of $\cos \phi$ | 4 LED digits display |
| Digital adjust of C/K value | Automatic |
| Connection time | 0 – 9999 s |
| Safety time | 0 – 9999 s |
| Working temperature | -10 / +50 °C |
| Terminals | Connection terminal |
| Degree of protection | IP42 (IP66 with cover) |
| Dimensions | 144 x 144 mm |
| Total depth | 75 mm |
| weight | 700g(7) , 750g(12) |
| Steps relays | 7 , 12 (relay) |
| Output contacts | 10A/275Vac |

* Other voltages and frequencies on request.

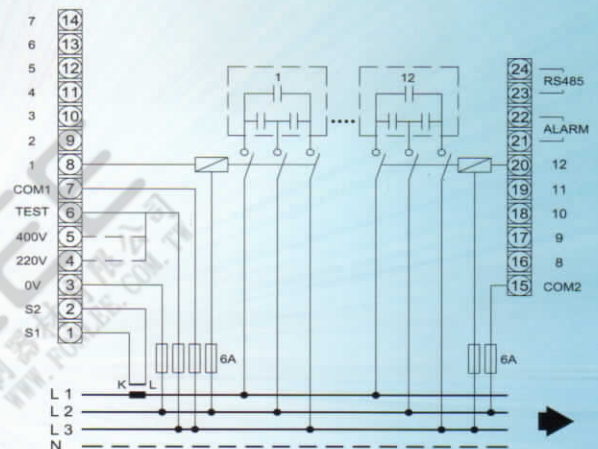
Communication

- RS-485 with Modbus Protocol(optional RS-232)

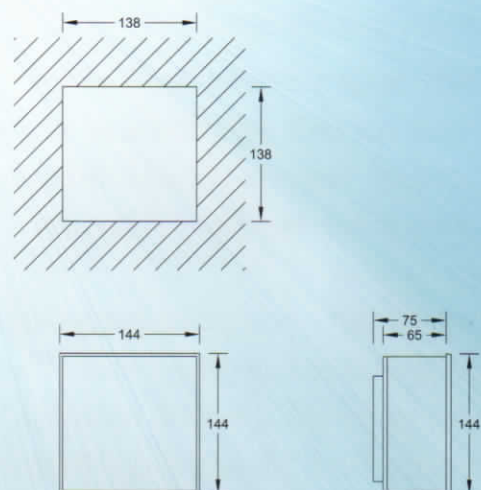
Alarms

- Low Power Factor
- Wrong connection
- Low Current
- High THD
- Memory Protection (128KB-4MB)
- Over Temperature (OPTION)

Wiring Diagrams



Dimensions (mm)



Manufacturer

WILCOLECTRIC (M) SDN. BHD.

3. PERSIARAN KILANG PENGKALAN 30.

TAMAN PERINDUSTRIAN PENGKALAN MAJU