

|                                       |        |      |                                                                                                                                            |  |
|---------------------------------------|--------|------|--------------------------------------------------------------------------------------------------------------------------------------------|--|
| Product designation                   |        |      | Thyristor modules                                                                                                                          |  |
| Product type designation              |        |      | DCTL                                                                                                                                       |  |
| General characteristics               |        |      |                                                                                                                                            |  |
| Rated voltage                         |        | V    | 600...690                                                                                                                                  |  |
| Operating voltage range               |        |      | 340...759                                                                                                                                  |  |
| Rated frequency                       |        | Hz   | 50/60                                                                                                                                      |  |
| Operating frequency range             |        | Hz   | 45...65                                                                                                                                    |  |
| Rated current (Ie)                    |        | A    | 48                                                                                                                                         |  |
| Step power at                         |        |      |                                                                                                                                            |  |
|                                       | 400VAC | kvar | 50                                                                                                                                         |  |
|                                       | 440VAC | kvar | 37                                                                                                                                         |  |
|                                       | 480VAC | kvar | 40                                                                                                                                         |  |
|                                       | 525VAC | kvar | 44                                                                                                                                         |  |
|                                       | 600VAC | kvar | 50                                                                                                                                         |  |
|                                       | 690VAC | kvar | 50                                                                                                                                         |  |
| Peak inverse voltage (PIV)            |        | VAC  | 3600                                                                                                                                       |  |
| Number of controlled phases           |        | Nr.  | 2                                                                                                                                          |  |
| Control circuit                       |        |      | 12-24VDC input or free-voltage input or via RS485 serial port (with optional card EXC1042 in combination with controller DCRG8F + EXP1012) |  |
| Auxiliary supply                      |        |      |                                                                                                                                            |  |
| Rated auxiliary supply voltage Us     |        |      |                                                                                                                                            |  |
| AC                                    |        |      |                                                                                                                                            |  |
|                                       | min    | VAC  | 100                                                                                                                                        |  |
|                                       | Max    | VAC  | 240                                                                                                                                        |  |
| Auxiliary rated frequency             |        | Hz   | 50/60                                                                                                                                      |  |
| Power consumption Max                 |        | VA   | 14.1                                                                                                                                       |  |
| Power dissipation Max                 |        | W    | 5.8                                                                                                                                        |  |
| Control input                         |        |      |                                                                                                                                            |  |
| Terminals                             |        |      | CONTROL +/-                                                                                                                                |  |
| Rated voltage                         |        |      | 12-24VDC                                                                                                                                   |  |
| Operating range                       |        |      | 8...30VDC                                                                                                                                  |  |
| Digital inputs                        |        |      |                                                                                                                                            |  |
| Terminals                             |        |      | C-IN1                                                                                                                                      |  |
| Applied voltage at contact (internal) |        |      | 5VDC                                                                                                                                       |  |
| Input current                         |        | mA   | ≤10                                                                                                                                        |  |
| Low input signal                      |        | VDC  | ≤0.8                                                                                                                                       |  |
| High input signal                     |        | VDC  | ≥3.2                                                                                                                                       |  |
| Input signal delay                    |        | ms   | ≥50                                                                                                                                        |  |
| NTC probe input                       |        |      |                                                                                                                                            |  |
| Terminals                             |        |      | NTC-NTC                                                                                                                                    |  |
| Sensor type                           |        |      | NTC (ordering code NTC01)                                                                                                                  |  |
| Measuring range                       |        | °C   | -25...+85                                                                                                                                  |  |
| Maximum connection lenght             |        | mt   | 3                                                                                                                                          |  |
| Fan power supply                      |        |      |                                                                                                                                            |  |

|                                         |                                                                           |                                                               |                              |
|-----------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------|
| Terminals                               |                                                                           |                                                               | FAN +/-                      |
| Supply voltage (internal)               |                                                                           |                                                               | 5VDC (provided by DCTL)      |
| Fan type                                |                                                                           |                                                               | 2 built-in fans type EXP8004 |
| Relay outputs                           |                                                                           |                                                               |                              |
| Number of relay output                  | Nr.                                                                       | 1                                                             |                              |
| Contact arrangement                     | 1 C/O-SPDT                                                                |                                                               |                              |
| Rated current                           | NO contact: AC1 5A 250VAC / 5A 30VDC NC contact: AC1 3A 250VAC / 3A 30VDC |                                                               |                              |
| UL/CSA and IEC/EN 60947-5-1 designation |                                                                           |                                                               | D300                         |
| Maximum switching voltage               | VAC                                                                       | 250                                                           |                              |
| Electrical life (with rated load)       | cycles                                                                    | NO contact: 10x10 <sup>3</sup> NC contact: 20x10 <sup>3</sup> |                              |
| Mechanical life                         | cycles                                                                    | 10 <sup>7</sup>                                               |                              |
| Insulations                             |                                                                           |                                                               |                              |
| Rated insulation voltage Ui IEC/EN      | V                                                                         | 690                                                           |                              |
| Rated impulse withstand voltage Uimp    | kV                                                                        | 6                                                             |                              |
| Connections - power terminals           |                                                                           |                                                               |                              |
| Type of terminal                        | Fixed - double lock clamp                                                 |                                                               |                              |
| Conductor cross section                 | min                                                                       | mm <sup>2</sup>                                               | 2 x 2.5                      |
|                                         | Max                                                                       | mm <sup>2</sup>                                               | 2 x 35                       |
|                                         | min                                                                       | AWG                                                           | 2 x 18                       |
|                                         | Max                                                                       | AWG                                                           | 2 x 2                        |
| Tightening torque (Max)                 |                                                                           | Nm                                                            | 5.5-6.5                      |
|                                         |                                                                           | lbin/lbft                                                     | 4.06-4.79 lbft               |
| Connections - relay output              |                                                                           |                                                               |                              |
| Type of terminal                        | Screw                                                                     |                                                               |                              |
| Conductor cross section                 | min                                                                       | mm <sup>2</sup>                                               | 0.2                          |
|                                         | Max                                                                       | mm <sup>2</sup>                                               | 4                            |
|                                         | min                                                                       | AWG                                                           | 26                           |
|                                         | Max                                                                       | AWG                                                           | 10                           |
| Tightening torque (Max)                 |                                                                           | Nm                                                            | 0.8                          |
|                                         |                                                                           | lbin                                                          | 7                            |
| Connections - fan and digital input     |                                                                           |                                                               |                              |
| Type of terminal                        | Screw                                                                     |                                                               |                              |
| Conductor cross section                 | min                                                                       | mm <sup>2</sup>                                               | 0.2                          |
|                                         | Max                                                                       | mm <sup>2</sup>                                               | 2.5                          |
|                                         | min                                                                       | AWG                                                           | 24                           |
|                                         | Max                                                                       | AWG                                                           | 12                           |
| Tightening torque (Max)                 |                                                                           | Nm                                                            | 0.44                         |
|                                         |                                                                           | lbin                                                          | 4                            |

## Ambient conditions

### Temperature

#### Operating temperature

|     |    |                                                            |
|-----|----|------------------------------------------------------------|
| min | °C | -20                                                        |
| max | °C | +45°C without<br>derating (up to<br>55°C with<br>derating) |

#### Storage temperature

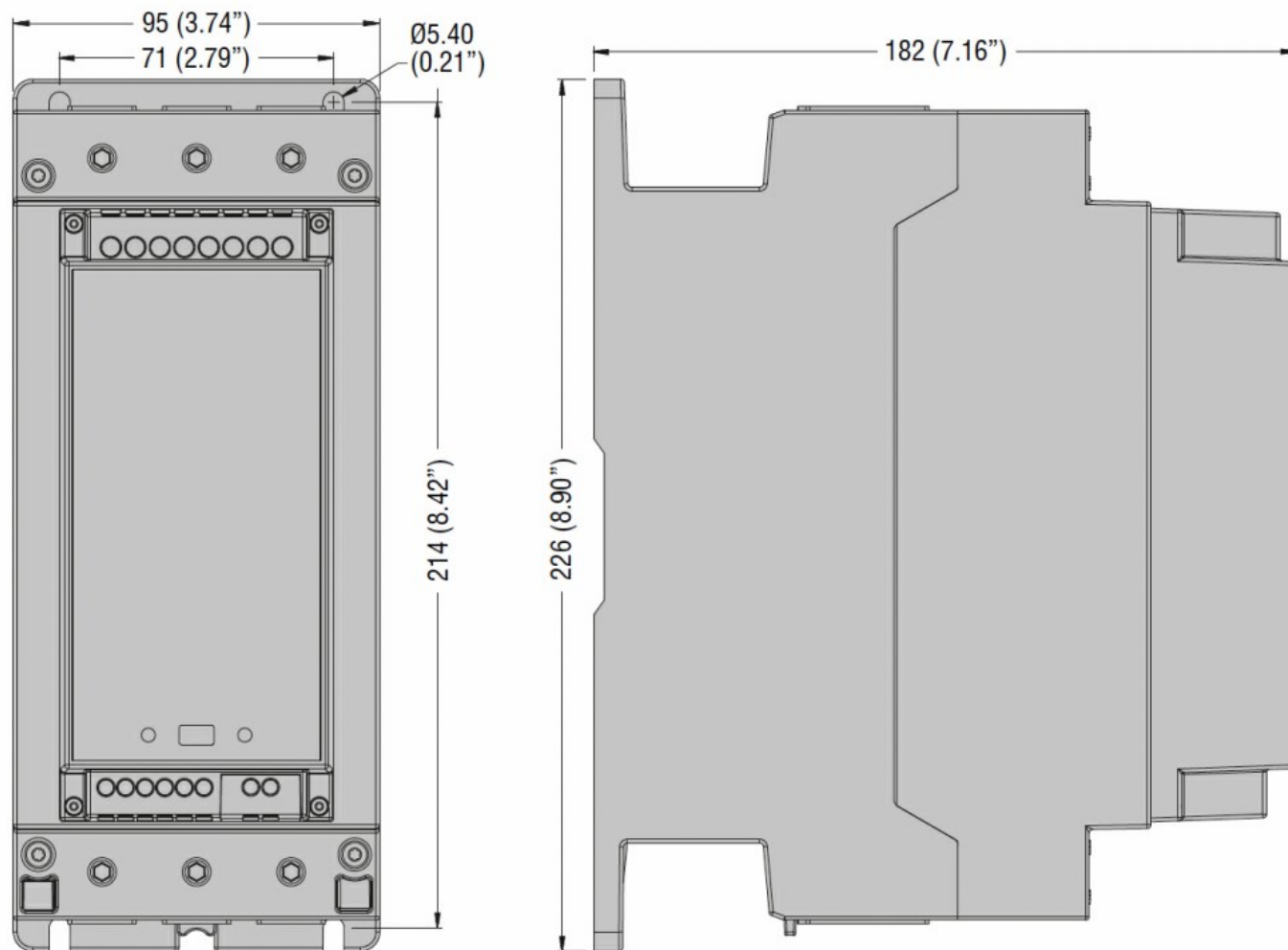
|     |    |     |
|-----|----|-----|
| min | °C | -30 |
| max | °C | +80 |

|                          |   |                               |
|--------------------------|---|-------------------------------|
| Relative humidity        | % | <80%                          |
| Maximum Pollution degree |   | 2                             |
| Overvoltage category     |   | III                           |
| Max altitude             | m | 2000m without<br>derating     |
| Climatic sequence        |   | Z/ABDM (IEC/EN<br>60068-2-61) |
| Shock resistance         |   | 15g (IEC/EN<br>60068-2-27)    |
| Vibration resistance     |   | 0.7g (IEC/EN<br>60068-2-6)    |

## Housing

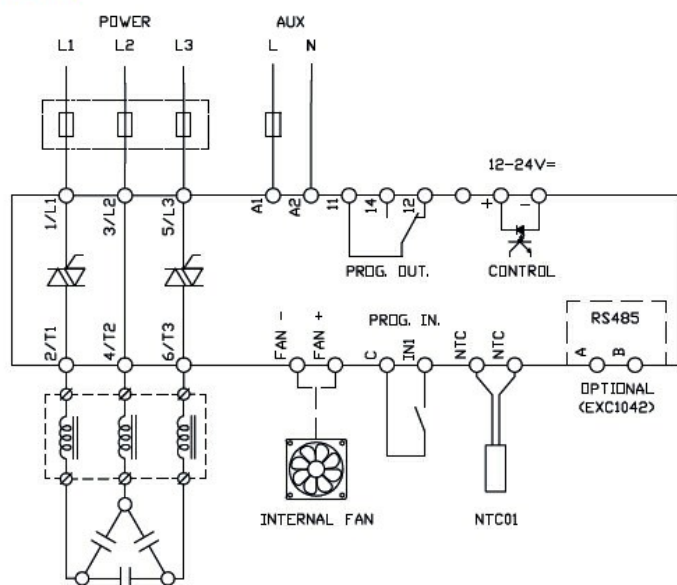
|                        |    |                                                                                        |
|------------------------|----|----------------------------------------------------------------------------------------|
| Execution              |    | Internal panel<br>version                                                              |
| Material               |    | Polycarbonate                                                                          |
| Mounting               |    | Screw fixing or<br>DIN-rail (IEC/EN<br>60715) with<br>optional<br>accessory<br>EXP8003 |
| Degree of protection   |    | IP00                                                                                   |
| Dimensions (W x H x D) | mm | 95 x 226 x 182                                                                         |
| Weight                 | g  | 2840                                                                                   |

## Dimensions



## Wiring diagrams

### DCTL



## Certifications and compliance

### Compliance

IEC/EN 60947-4-3

IEC/EN 61000-6-2

IEC/EN 61000-6-4

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Certificates

cULus

ETIM classification

ETIM 8.0

EC002055 -  
Solid state relay