

# RIC20-110/UC24V

2 pole | 20 A | 4 kW



## Main circuit

|                                                     |                              |
|-----------------------------------------------------|------------------------------|
| Available contact materials                         | AgNi                         |
| Rated voltage                                       | 400 V AC                     |
| Rated current AC-1                                  | 20 A                         |
| Recommended minimum contact load                    | 50 mA, 17 V                  |
| Inrush current                                      | 50 A, 100 ms / 180 A, 300 µs |
| Rated load AC-1 single-phase 230 V                  | 4 kW                         |
| Rated load AC-3                                     | 1.3 (NO) / 0.75 (NC) kW      |
| Rated load DC-1                                     | see fig. 2                   |
| Mechanical endurance (cycles)                       | ≥ 10 000 000                 |
| Electrical endurance at rated load AC-1 (cycles)    | ≥ 200 000                    |
| Electrical endurance at rated load AC-3 (cycles)    | ≥ 300 000                    |
| Electrical endurance at rated load DC-1 (cycles)    | ≥ 100 000                    |
| Switching frequency at rated load AC-1 (cycles / h) | ≤ 600                        |
| Switching frequency at rated load AC-3 (cycles / h) | ≤ 600                        |
| Switching frequency at rated load DC-1 (cycles / h) | ≤ 300                        |

## Control circuit

|                           |                              |
|---------------------------|------------------------------|
| Nominal voltage           | see table product references |
| Operating voltage range   | 0.85 ... 1.1 U <sub>N</sub>  |
| Pick-up voltage           | ≤ 0.85 U <sub>N</sub>        |
| Release voltage           | ≥ 0.1 U <sub>N</sub>         |
| Pick-up time              | 15 ... 45 ms                 |
| Release time              | 20 ... 50 ms                 |
| Power consumption AC / DC | 2.1 VA / 2.1 W               |
| Frequency range           | 40 ... 500 Hz                |

## Insulation

|                                              |              |
|----------------------------------------------|--------------|
| Rated insulation voltage                     | 440 V        |
| Rated impulse withstand voltage open contact | 4 kV / 1 min |
| Pollution degree                             | 3            |
| Overvoltage category                         | III          |
| Clearance of open contact                    | 3.6 mm       |

## Wiring

|                                                |                                         |
|------------------------------------------------|-----------------------------------------|
| Contact type control / main circuit            | Screw connection, M3 / M3.5             |
| Conductor cross section control / main circuit | 2.5 mm <sup>2</sup> / 6 mm <sup>2</sup> |
| Stripping Length control / main circuit        | 7 mm / 9 mm                             |
| Nominal screw torque control / main circuit    | 0.6 Nm / 1.2 Nm                         |
| Screwdrive control / main circuit              | PZ1 / PZ1                               |

## Housing and environmental conditions

|                                    |                                                                                 |
|------------------------------------|---------------------------------------------------------------------------------|
| Storage temperature (no ice)       | -30 ... 80 °C                                                                   |
| Operation temperature              | -15 ... 55 °C                                                                   |
| Relative humidity, no condensation | 95 % relative humidity                                                          |
| Ingress Protection                 | IP 20                                                                           |
| Weight                             | 130 g                                                                           |
| Housing material                   | PA 6                                                                            |
| Operation Altitude                 | Max. 2 000 m                                                                    |
| Mounting                           | DIN rail                                                                        |
| Dimensions                         | 17.5 x 65.5 x 85 mm                                                             |
| Vibration test                     | switched off: 2 g (Z and X axis) / switched on: 3 g (Z axis) and 1 g (X axis)   |
| Shock test                         | switched off: 10 g (Z and X axis) / switched on: 15 g (Z axis) and 2 g (X axis) |



fig. 1. Wiring diagram

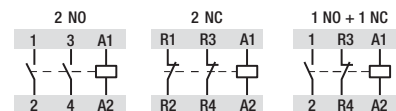


fig. 2. DC load limit curve

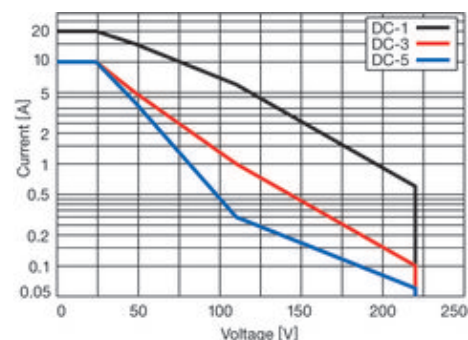
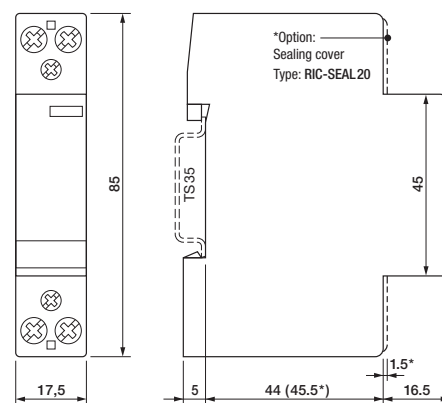


fig. 3. Dimensions (mm)



## Technical approvals, conformities

Standards IEC/EN 60947; IEC/EN 61095

Approvals

RIC20-110/UC24V

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Safety

|                                                                                      |          |
|--------------------------------------------------------------------------------------|----------|
| MTTF - Mean time to failure, AC-1 (h)                                                | 5,000    |
| MTTF = 1/λ = B10/(0.1 n <sub>op</sub> ), AC-3 (h)                                    | 7,500    |
| MTTF <sub>d</sub> - Mean time to failure dangerous, AC-1 (h)                         | 6,667    |
| MTTF <sub>d</sub> = 1/λ = B10 <sub>d</sub> /(0.1 n <sub>op</sub> )                   | 10,000   |
| B10 - Number of operating cycles until 10 % of devi- ces fail, AC-1                  | 150,000  |
| B10 - Number of operating cycles until 10 % of devi- ces fail, AC-3                  | 225,000  |
| B10 <sub>d</sub> - Number of operating cycles until 10 % of de- vice dangerous, AC-1 | 200,000  |
| B10 <sub>d</sub> = B10/ratio of dangerous failures, AC-3                             | 300,000  |
| λ - Failure rate, AC-1 (1/h)                                                         | 0.0002   |
| λ = (0.1 n <sub>op</sub> )/B10, AC-3 (1/h)                                           | 0.000133 |
| λ <sub>d</sub> - Failure rate dangerous, AC-1 (1/h)                                  | 0.00015  |
| λ <sub>d</sub> = (0.1 n <sub>d</sub> )/B10 <sub>op</sub> , AC-3 (1/h)                | 0.0001   |
| Ratio of dangerous failures (%)                                                      | 75       |
| n <sub>op</sub> - Operating cycles (operating cycles/h)                              | 300      |

Product references

| Description | Type             | 24 |
|-------------|------------------|----|
| 1 NO + 1 NC | RIC20-110/UC...V | ✓  |

Other voltages on request. Please contact support@comatreleco.com.  
«...» List coil voltage to complete product references

Accessories

|               |                                                |
|---------------|------------------------------------------------|
| Sealing cover | RIC-SEAL20                                     |
| Spacer        | RIC-DIST                                       |
| End covers    | RIC-EK-11 (BAG 25 PCS), RIC-EK-23 (BAG 10 PCS) |
| Busbar        | RIC-NS-1-1, RIC-PS-1-2                         |



fig. 1. Wiring diagram

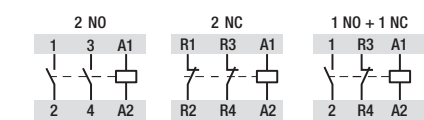


fig. 2. DC load limit curve

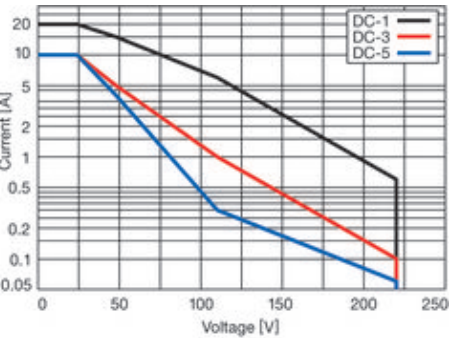
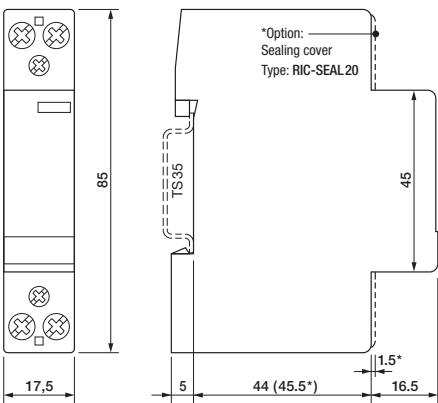


fig. 3. Dimensions (mm)



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Approvals