

# RIC40-220/UC24V

4 pole | 40 A | 8.7 kW



## Main circuit

|                                                     |                               |
|-----------------------------------------------------|-------------------------------|
| Available contact materials                         | AgSnO <sub>2</sub>            |
| Rated voltage                                       | 400 V AC                      |
| Rated current AC-1                                  | 40 A                          |
| Recommended minimum contact load                    | 50 mA, 17 V                   |
| Inrush current                                      | 170 A, 100 ms / 970 A, 300 µs |
| Rated load AC-1                                     | 8.7 kW                        |
| Rated load AC-3                                     | 3.7 kW                        |
| Rated load DC-1                                     | see fig. 2                    |
| Mechanical endurance (cycles)                       | ≥ 10 000 000                  |
| Electrical endurance at rated load AC-1 (cycles)    | ≥ 100 000                     |
| Electrical endurance at rated load AC-3 (cycles)    | ≥ 150 000                     |
| 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 ... 20 ms                       |
| Release time              | 35 ... 45 ms                       |
| Power consumption AC / DC | 5 VA / 5 W                         |
| Frequency range           | 50 / 60 Hz (AC) 40 ... 500 Hz (UC) |

## Insulation

|                                              |              |
|----------------------------------------------|--------------|
| Rated insulation voltage                     | 440 V        |
| Rated impulse withstand voltage open contact | 6 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 / M5                 |
| Conductor cross section control / main circuit | 2.5 mm <sup>2</sup> / 16 mm <sup>2</sup> |
| Stripping Length control / main circuit        | 8 mm / 10 mm                             |
| Nominal screw torque control / main circuit    | 0.6 Nm / 3.5 Nm                          |
| Screwdrive control / main circuit              | PZ1 / PZ2                                |

## Housing and environmental conditions

|                                    |                                                                                 |
|------------------------------------|---------------------------------------------------------------------------------|
| Storage temperature (no ice)       | -40 ... 80 °C                                                                   |
| Operation temperature              | -15 ... 55 °C                                                                   |
| Relative humidity, no condensation | 95 % relative humidity                                                          |
| Ingress Protection                 | IP 20                                                                           |
| Weight                             | 420 g                                                                           |
| Housing material                   | PA 6                                                                            |
| Operation Altitude                 | Max. 2 000 m                                                                    |
| Mounting                           | DIN rail                                                                        |
| Dimensions                         | 84 x 53.5 x 65.5 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

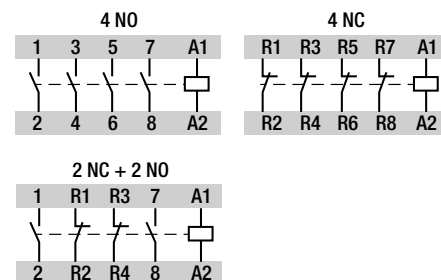


fig. 2. DC load limit curve

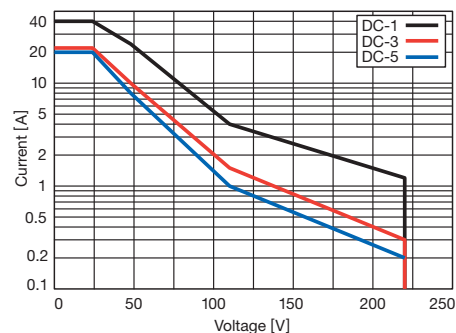
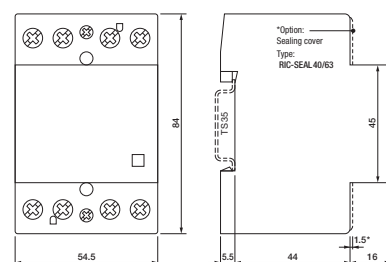


fig. 3. Dimensions (mm)



## Technical approvals, conformities

Standards IEC/EN 60947; IEC/EN 61095

Approvals

# **RIC40-220/UC24V** **4 pole | 40 A | 8.7 kW**



## **Safety**

|                                                                                     |          |
|-------------------------------------------------------------------------------------|----------|
| MTTF - Mean time to failure, AC-1 (h)                                               | 2,500    |
| MTTF = 1/λ = B10/(0.1 n <sub>op</sub> ), AC-3 (h)                                   | 3,750    |
| MTTF <sub>d</sub> - Mean time to failure dangerous, AC-1 (h)                        | 3,333    |
| MTTF <sub>d</sub> = 1/λ = B10 <sub>d</sub> /(0.1 n <sub>op</sub> )                  | 5,000    |
| B10 - Number of operating cycles until 10 % of devices fail, AC-1                   | 75,000   |
| B10 - Number of operating cycles until 10 % of devices fail, AC-3                   | 112,500  |
| B10 <sub>d</sub> - Number of operating cycles until 10 % of devices dangerous, AC-1 | 100,000  |
| B10 <sub>d</sub> = B10/ratio of dangerous failures, AC-3                            | 150,000  |
| λ - Failure rate, AC-1 (1/h)                                                        | 0.0004   |
| λ = (0.1 n <sub>op</sub> )/B10, AC-3 (1/h)                                          | 0.000266 |
| λ <sub>d</sub> - Failure rate dangerous, AC-1 (1/h)                                 | 0.0003   |
| λ <sub>d</sub> = (0.1 n <sub>d</sub> )/B10 <sub>op</sub> , AC-3 (1/h)               | 0.0002   |
| Ratio of dangerous failures (%)                                                     | 75       |
| n <sub>op</sub> - Operating cycles (operating cycles/h)                             | 300      |

## **Product references**

| Description | Type             | 24 |
|-------------|------------------|----|
| 2 NO + 2 NC | RIC40-220/UC...V | ✓  |

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

## **Accessories**

|                   |                                 |
|-------------------|---------------------------------|
| Sealing cover     | RIC-SEAL40/63                   |
| Spacer            | RIC-DIST                        |
| Auxiliary contact | RIC-AUX02, RIC-AUX11, RIC-AUX20 |

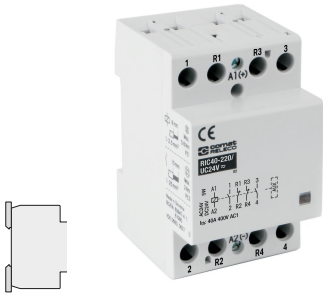


fig. 1. Wiring diagram

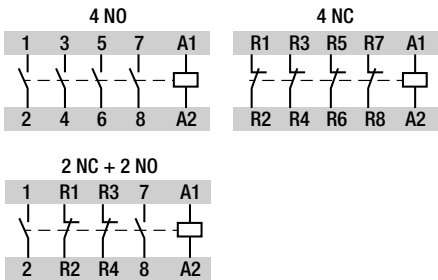


fig. 2. DC load limit curve

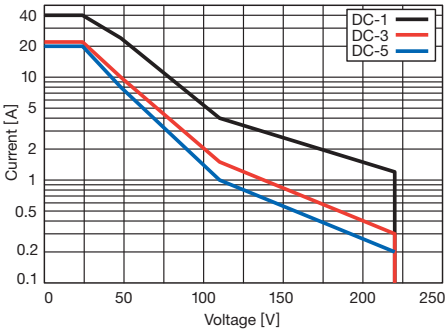
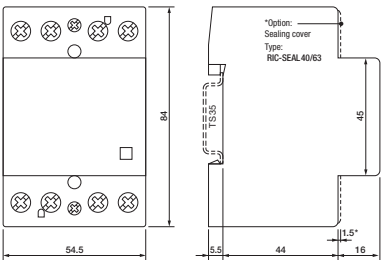


fig. 3. Dimensions (mm)



## **Technical approvals, conformities**

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Approvals   