

# RAC20-020/UC24V

2 pole | 20 A | 4 kW | Manual lever Auto - 1 - Lock



## 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 $\mu$ s |
| Rated load AC-1                                     | 4 kW                              |
| Rated load AC-3                                     | 1.3 (NO) / 0.75 (NC) kW           |
| Rated load DC-1                                     | see fig. 2                        |
| Mechanical endurance (cycles)                       | $\geq 10\,000\,000$               |
| Electrical endurance at rated load AC-1 (cycles)    | $\geq 200\,000$                   |
| Electrical endurance at rated load AC-3 (cycles)    | $\geq 300\,000$                   |
| Electrical endurance at rated load DC-1 (cycles)    | $\geq 100\,000$                   |
| Switching frequency at rated load AC-1 (cycles / h) | $\leq 600$                        |
| Switching frequency at rated load AC-3 (cycles / h) | $\leq 600$                        |
| Switching frequency at rated load DC-1 (cycles / h) | $\leq 300$                        |

## Control circuit

|                           |                              |
|---------------------------|------------------------------|
| Nominal voltage           | see table product references |
| Operating voltage range   | 0.85 ... 1.1 $U_N$           |
| Pick-up voltage           | $\leq 0.85 U_N$              |
| Release voltage           | $\geq 0.1 U_N$               |
| 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, M3.5 / 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)       | -40 ... 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                         | 85 x 17.5 x 65 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) |

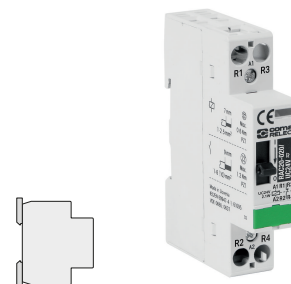


fig. 1. Wiring diagram

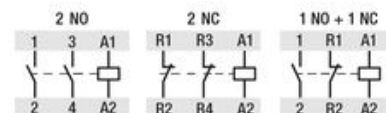


fig. 2. DC load limit curve

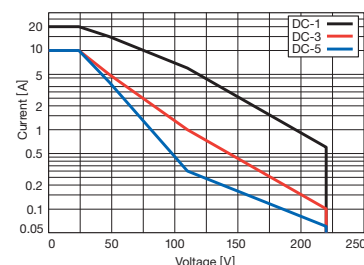
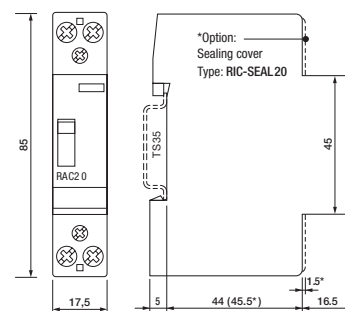


fig. 3. Dimensions (mm)



## Technical approvals, conformities

Standards IEC/EN 60947; IEC/EN 61095

Approvals

RAC20-020/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)                        | 6,666    |
| 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 devices fail, AC-1                   | 150,000  |
| B10 - Number of operating cycles until 10 % of devices fail, AC-3                   | 225,000  |
| B10 <sub>d</sub> - Number of operating cycles until 10 % of devices 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 |
|-------------|------------------|----|
| 2 NC        | RAC20-020/UC...V | ✓  |

Other voltages on request. Please contact support@comatreleco.com.

«...» List control circuit voltage to complete product references.

Accessories

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

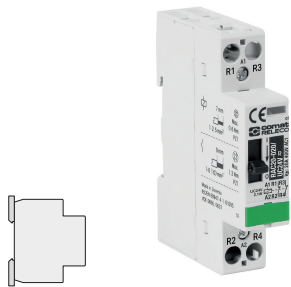


fig. 1. Wiring diagram

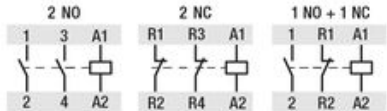


fig. 2. DC load limit curve

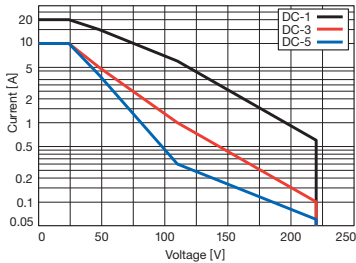
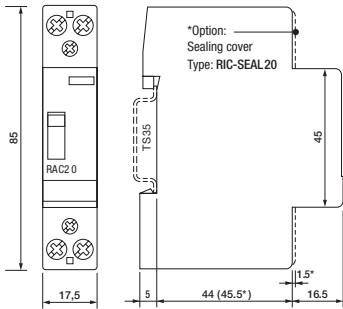


fig. 3. Dimensions (mm)



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Approvals   