

**3 pole | Changeover contact | Power relay | Railway**



### Available contact materials

|                                                  |                   |
|--------------------------------------------------|-------------------|
| Recommended minimum contact load                 | 50 mA / 10 V      |
| Maximum contact load AC                          | 10 A / 250 V AC-1 |
| Maximum contact load DC                          | 10 A / 30 V DC-1  |
| Inrush current                                   | 40 A, 20 ms       |
| Rated load AC                                    | 2 500 VA          |
| Rated load DC                                    | fig. 3.           |
| Rated current                                    | 10 A              |
| Mechanical endurance (cycles)                    | ≥ 100 000 000     |
| Electrical endurance at rated load AC-1 (cycles) | ≥ 700 000         |



|                           |                                         |
|---------------------------|-----------------------------------------|
| Nominal voltage           | see table product references            |
| Operating voltage range   | $0.7 U_N \dots 1.25 U_N$                |
| Pick-up voltage           | $0.7 U_N$                               |
| Release voltage           | $> 0.15 \times U_N / > 0.05 \times U_N$ |
| Power consumption AC / DC | 2.5 VA / 1.2 W                          |

| $U_{DC}(V)$ | $R(\Omega)$ | $I(mA)$ |
|-------------|-------------|---------|
| 220         | 29 000      | 7.6     |

## Insulation

|                                |                |
|--------------------------------|----------------|
| Test voltage open contact      | 1.5 kV / 1 min |
| Test voltage contact / contact | 1.5 kV / 1 min |
| Test voltage contact / coil    | 2 kV / 1 min   |
| Overvoltage category           | III            |
| Insulation resistance at 500 V | ≥ 1 GΩ         |
| Pollution degree               | 3              |

|                                           |                               |
|-------------------------------------------|-------------------------------|
| Storage temperature (no ice)              | -40 ... 80 °C                 |
| Operation temperature                     | -40 ... 70 °C                 |
| Pick-up time AC / DC                      | 3 ... 10 ms / ≤ 12 ms         |
| Release time AC / DC                      | 2 ... 15 ms / ≤ 3.5 ms        |
| Bounce time NO contact AC / DC            | 3 ... 6 ms / approx. ≤ 3.5 ms |
| Maximum switching frequency at rated load | 360 / h                       |
| Dimensions                                | fig. 4.                       |
| Weight                                    | 80 g                          |
| Housing material                          | PA / PC                       |

| Description                                                        | Type          | 220 |
|--------------------------------------------------------------------|---------------|-----|
| Railway & Free wheeling diode                                      | C31D/R DC...V | ✓   |
| Other voltages on request. Please contact support@comatreleco.com. |               |     |
| «...» List coil voltage to complete product references             |               |     |

|        |                       |
|--------|-----------------------|
| Socket | S3-MR, S3-M0R, S3-M1R |
|--------|-----------------------|

| Switching current [A] | Cycles            |
|-----------------------|-------------------|
| 1                     | $8 \times 10^6$   |
| 2                     | $4 \times 10^6$   |
| 3                     | $3 \times 10^6$   |
| 4                     | $2.5 \times 10^6$ |
| 5                     | $2 \times 10^6$   |
| 6                     | $1.8 \times 10^6$ |
| 7                     | $1.6 \times 10^6$ |
| 8                     | $1.4 \times 10^6$ |
| 9                     | $1.2 \times 10^6$ |
| 10                    | $8 \times 10^5$   |

Figure 10 is a semi-logarithmic plot showing the relationship between DC current [A] (Y-axis, logarithmic scale from 0.1 to 10) and DC voltage [V] (X-axis, linear scale from 0 to 250). Two curves are plotted: DC-1 (black line) and L/R 40 ms (red line). The DC-1 curve starts at approximately 10 A and 25 V, while the L/R 40 ms curve starts at 10 A and 10 V. Both curves show a rapid decrease in current as voltage increases, with the L/R 40 ms curve decaying faster than the DC-1 curve.

## Standards IEC/EN 61810; IEC/EN 60947

Railway EN 50155; EN 45545-2

Approvals   

