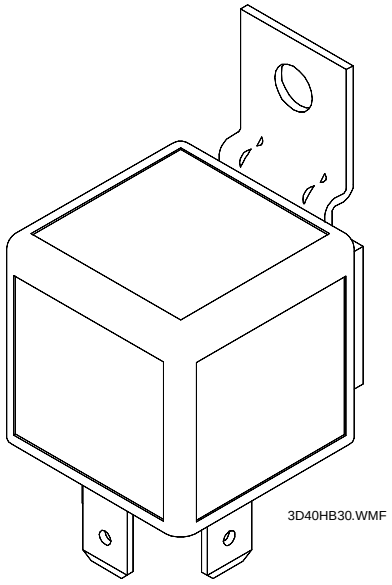
tyco Electronics

# Power relay F4

# V23134-A1052-X299

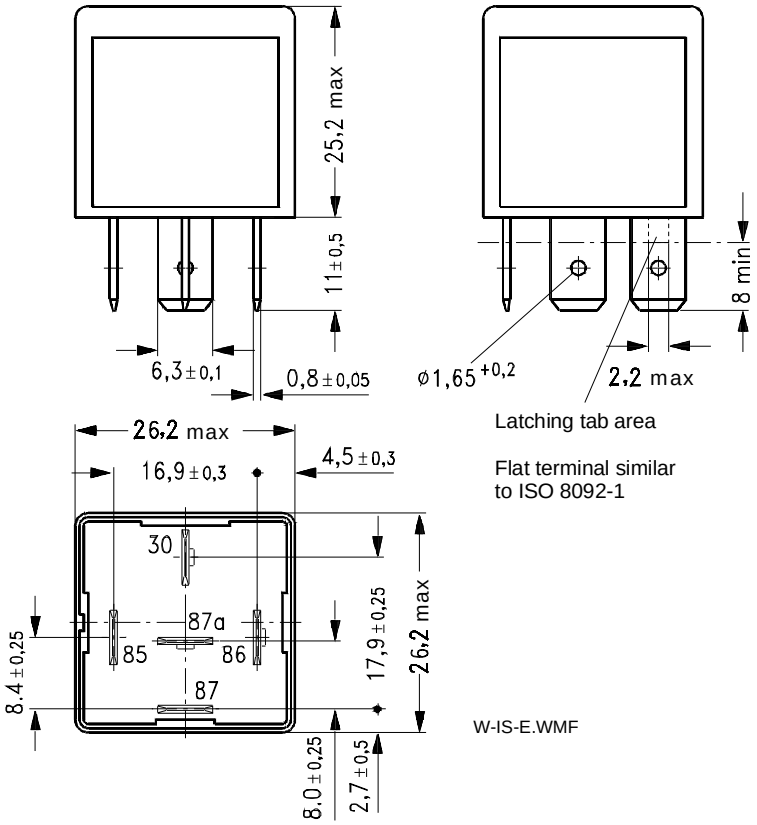
Data sheet

change over with bracket and
diode in parallel to the coil



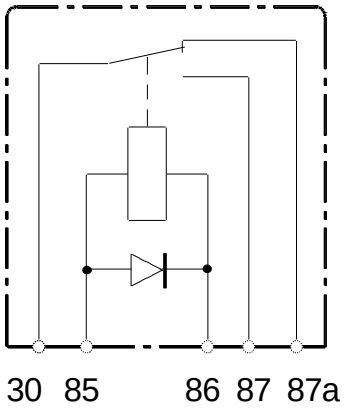

Issued: 2005-11-14, Ed 02

## Dimensional drawing

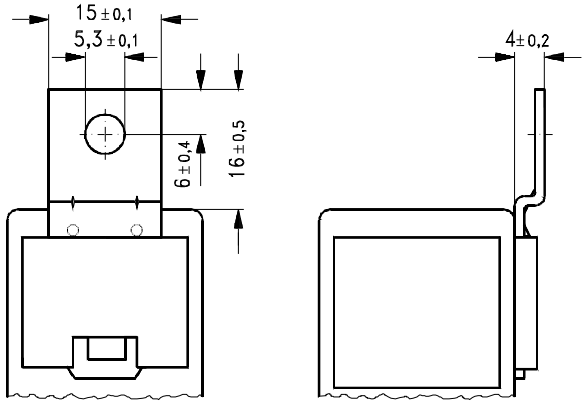



Terminal arrangement
View of the terminals

## Pin assignment
## 1 change over



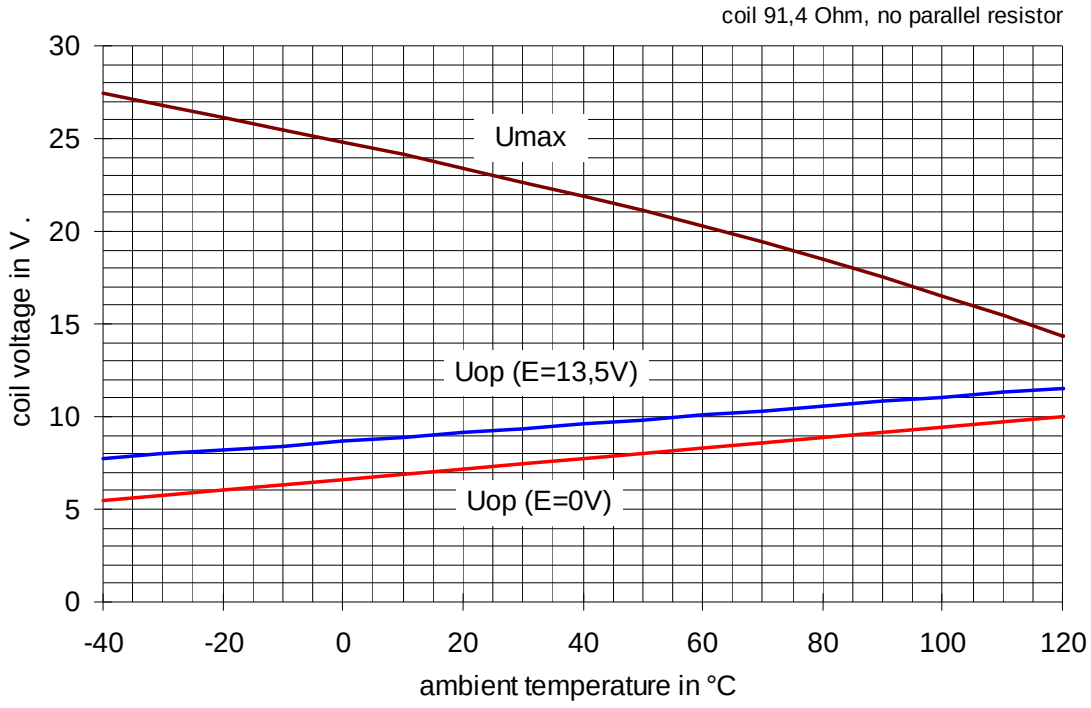

## additional feature: bracket



## Table 1

| Technical data for energising side | | |
|---|---|---|
| | Unit | Value |
| Nominal voltage | V | 12 |
| Max. voltage | V | See diagram |
| Max. operate voltage[1] (coil temp. 23 °C) | V | 7.2 |
| Min. release voltage (coil temp. 23 °C) | V | 1.6 |
| Test voltage winding / contact | $V_{\sim rms}$ | 1000 |
| Coil resistance (coil temp. 23 °C) | Ω | 92 ± 9 |
| Nominal power consumption | W | 1.6 |
| Max. ambient temperature | °C | -40 to +85 |
| Max. switching rate without contact loading | Hz | 20 |
| Operate time[2], typical value | ms | 7.5 |
| Release time, typical value | ms | 12.5 |

## Operating voltage range diagram




does not take into account the temperature rise due to the contact current,
Uop = operate voltage, E = pre - energization

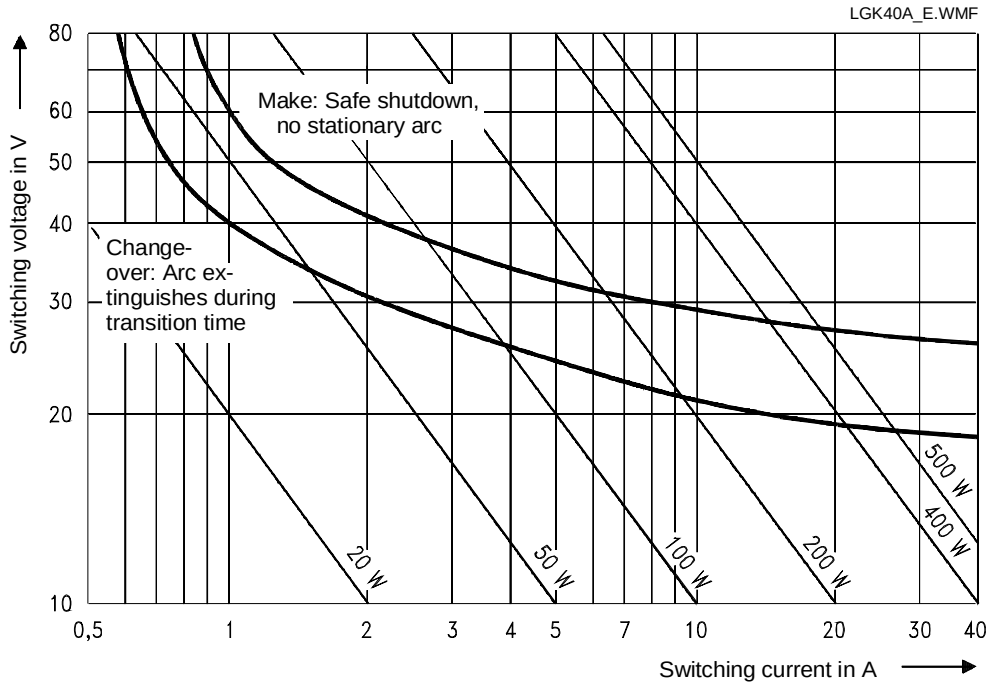
[1] See also operating voltage range diagram
[2] Measured at nominal voltage

## Table 2

### Contact data

| | Unit | Value | |
|---|---|---|---|
| Contact material | | Silver based | |
| Circuit symbol | | see pin assignment | |
| Max switching voltage | V | see load limit curve | |
| Max. switching power | W | see load limit curve | |
| | | change over | |
| | | break | make |
| Max. switching current[3] On[4] | A | 45 | 120 |
| Off | A | 40 | 60 |
| Rated current at 85 °C | A | 30 | 40 |
| Min. recommended load current | | 1A at 5V | |
| Voltage drop at 10A | mV | typ. 15, max 250 | |
| Increase in coil temp. at 10A load current | °C | Approx. 3 | |
| Mechanical endurance (without load) | Cycles | Approx. $10^7$ | |
| Electrical endurance[3] for an resistive load 40A, 13.5V switching voltage, 0.2s make / 0.8s break time | Cycles | Approx. $10^5$ | |

## Load limit curve




[3] The values apply to a resistive or inductive load with suitable spark suppression
[4] This current may flow for a maximum of 3s for a make/break ratio of 1:10

## Table 3

### Operating conditions

| ***Storage temperature range*** | | -40°C to 155°C | | |
|---|---|---|---|---|
| **Test** | **Standards** | **Test acc. to** | **Dimension** | **Comment** |
| Corrosive gas | IEC 68-2-42<br><br>IEC 68-2-43 | 10 ± 2 $cm^3/m^3$ SO2<br>1 ± 0.3 $cm^3/m^3$ H2S | 10 days<br><br>10 days | |
| Damp heat<br>cyclic<br>constant | <br>IEC 68-2-30<br>IEC 68-2-3 | <br>Db, variant 1<br>Ca | <br>6 Cycles<br>56 days | upper air temperature<br>T= 55 °C |
| Temperature cycling | IEC 68-2-14 | Nb | 10 Cycles | -40 °C to 85 °C<br>(5 °C per min.) |
| Shock resistance | IEC 68-2-27<br>(half-sine pulse form) | | 6 ms, 30 g | no change in switching state for > 10 µs |
| Vibration resistance | IEC 68-2-6 (sine pulse form)<br>Coil not energized<br>Coil energized | | 10...500 Hz<br>5g on N/C<br>15g on N/O | no change in switching state for > 10 µs |