## 7LQ3 35 insulation monitors for medical premises

### Technical specifications

| | | 7LQ3 350<br>insulation monitors | 7LQ3 351<br>signaling and test combinations | 7LQ3 352<br>power supply units | 7LQ3 353<br>measuring current transformers |
|---|---|---|---|---|---|
| **Co-ordination of insulation according to IEC 60664-1** | | | | | |
| Rated voltage | V AC | 250 | 250 | 250 | 750 |
| Rated withstand voltage/pollution severity | kV | 4 | 4 | 4 | 2.5 |
| Pollution severity | | 3 | 3 | 3 | |
| **Voltage ranges** | | | | | |
| Rated system voltage $U_n$ | V | 230 | | | |
| Rated frequency $f_n$ | Hz | 50 ... 60 | | | |
| Power supply $U_s$ | V | 230 | 24 | 230 | -- |
| Operating range $U_s$ | V | 0.85 ... 1.15 x $U_s$ | 12 ... 28 | 0.85 ... 1.1 x $U_s$ | -- |
| Power consumption max. | VA | 3 | 2.5 | | -- |
| Secondary fuse (internal) | | -- | -- | PTC thermistor | -- |
| Output voltage AC, 50 ... 60 Hz | V AC | -- | -- | 20 | -- |
| Output frequency | Hz | -- | -- | 50 ... 60 | -- |
| Max. total rated output | VA | -- | -- | 9 | -- |
| **General Data** | | | | | |
| EMC immunity to interference according to | | EN 61326 | EN 61000-6-2 | EN 61000-6-2 | -- |
| EMC emitted interference according to | | EN 61326 | EN 61000-6-4 | EN 61000-6-4 | -- |
| Shock resistance according to IEC 60068-2-27 (device in operation) | g/ms | 15/11 | | | |
| Bumping according to IEC 60068-2-29 (transport) | g/ms | 40/6 | | | |
| Vibration strain according to IEC 60068-2-6 | | | | | |
| • Device in operation | g/Hz | 1/10 ... 150 | | | |
| • Transport | g/Hz | 2/10 ... 150 | | | |
| Ambient temperature | | | | | |
| • Operation | °C | -10 ... +55 | -5 ... +55 | -5 ... +50 | 0 ... +85 |
| • Transport | °C | -40 ... +70 | -25 ... +60 | -25 ... +60 | -40 ... +85 |
| Climatic category according to IEC 60721-3-3 | | 3K5 | | | |
| Operating mode | | continuous duty | | | |
| Mounting position | | as required | | | |
| Connection type | | terminal blocks | | | FASTON connector 6.3 x 0.8 |
| Tightening torque | Nm | 0.5 ... 0.6 | | | -- |
| | lb. in | 4.3 ... 5.3 | | | -- |
| Connection capacity | | | | | |
| • Rigid | $mm^2$ | 0.2 ... 4 | | | -- |
| • Flexible | $mm^2$ | 0.2 ... 2.5 | | | -- |
| • Flexible with end sleeve | $mm^2$ | 0.25 ... 2.5 | | | -- |
| Conductor size (AWG) | AWG | 24 ... 12 | -- | 24 ... 12 | -- |
| Degree of protection according to EN 60529 | | | | | |
| • Built-in components | | IP30 | IP50 | IP30 | -- |
| • Terminals | | IP20 | IP20 | IP20 | -- |
| Screw-type attachment | | 2 x M4 | -- | 2 x M4 | -- |
| Quick fastening onto DIN-rail according to | | IEC 60715 | -- | IEC 60715 | -- |
| Flammability class | | UL 94V-0 | UL 94V-0 | UL 94V-0 | -- |
| Weight approx. | kg | 0.400 | 0.150 | 0.360 | -- |
| Installation | | screw mounting, DIN-rail, distribution boards | flush mounting, cable duct, panel | screw mounting, DIN-rail, distribution boards | -- |
| Enclosure type | | -- | flush-mounting enclosure | -- | -- |
| Standard | | -- | -- | -- | IEC60044-1 |
| **Measuring circuit insulation monitoring** | | | | | |
| Response value $R_{resp}$ | kΩ | 50 ... 500 | -- | | |
| Response deviation | % | 0 ... +10 | -- | | |
| Response time $t_{resp}$ | | | | | |
| • At RF = 0.5 x $R_{resp}$ | s | 3 | -- | | |
| • At $C_e$ = 1 µF | s | 3 | -- | | |
| Hysteresis | % | 25 | -- | | |
| Measurement voltage $U_m$ | V | ≤ 12 | -- | | |
| Measurement current $I_{m\,max}$ (at RF = 0 Ω) | µA | ≤ 50 | -- | | |
| Internal resistance DC $R_i$ | kΩ | ≥ 240 | -- | | |
| Impedance $Z_i$ at 50 Hz | kΩ | ≥ 200 | -- | | |
| Permissible direct interference voltage $U_{fg}$ = DC | V | ≤ 375 | -- | | |
| Permissible system leakage capacitance $C_e$ | µF | ≤ 5 | -- | | |
| **Measuring circuit load current monitoring** | | | | | |
| Response value | A | 5 ... 50 | -- | | |
| Hysteresis | % | 4 | -- | | |
| Temperature influence | %/°C | < 0.15 | -- | | |
| **Measuring circuit temperature monitoring** | | | | | |
| Response value | kΩ | 4 | -- | | |
| Release value | kΩ | 1.6 | -- | | |
| PTC thermistor according to DIN 44081, max. | Units | 6 in series | -- | | |

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|---|---|---|---|---|---|
| **Display and control elements** | | | | | |
| Display (illuminated) | | LCD | -- | | |
| Characters | | | | | |
| • Number of rows x characters | | 2 x 16 | -- | | |
| • Height | mm | 3.5 | -- | | |
| Display area measured value | kΩ | 10 ... 5000 | -- | | |
| Operating error | | acc. to IEC 61557-8 | -- | | |
| LEDs | | -- | ON, isolation fault, overload, overtemperature | -- | |
| Pushbuttons | | -- | isometer test<br>buzzer muting | -- | |
| **Interfaces** | | | | | |
| Interface | | RS 485 | RS 485/terminals A/B | -- | |
| Cable length, max. | m | 1200 | 1200 | -- | |
| Recommended cable (shielded, shield single-sided at PE) | | JY(ST)Y 2 x 0.6 | JY(ST)Y 2 x 0.6 | -- | |
| Terminating resistor | Ω | 120 (0.25 W) | 120 (0.5 W) | -- | |
| Device address | | 2 | 1, 3 ... 7 | -- | |
| **Switching elements** | | | | | |
| Alarm relay | | 1 CO contact | -- | | |
| Mode of operation, adjustable | | quiescent current or working current | -- | | |
| Factory presetting | | working current | -- | | |
| Electrical service life | switching cycles | 12000 | -- | | |
| Contact class IIB (IEC60255-0-20) | | IIB (IEC 60255-0-20) | -- | | |
| Rated contact voltage | | | | | |
| • AC | V | 250 | -- | | |
| • DC | V | 300 | -- | | |
| Making capacity | | | | | |
| • AC | A | 5 | -- | | |
| • DC | A | 5 | -- | | |
| Breaking capacity at | | | | | |
| • 230 V AC, p.f. = 0.4 | | 2 | -- | | |
| • 220 V DC, L/R = 0.04 s | | 0.2 | -- | | |
| **Connecting cable to measuring current transformer** | | | | | |
| Cable length, max. | | | | | |
| • Individual wires = 0.75 mm² | m | -- | | | 1 |
| • Individual wires, twisted = 0.75 mm² | m | -- | | | 10 |
| • Shield cable = 0.6 mm² (shield single-sided at PE) e.g. JY(ST)Y 2 x 0.6 | m | -- | | | 40 |
| Screw-type attachment | | -- | | | M3 |
| Flammability class | | -- | | | UL 94V-0 |
| **Measuring circuit** | | | | | |
| Rated transmission ratio $k_n$ | A | -- | | | 50/0.5 |
| Rated load | Ω | -- | | | 65 |
| Primary rated current | | | | | |
| • Min. | A | -- | | | 0.5 |
| • Max. | A | -- | | | 50 |
| Rated output | VA | -- | | | 2 |
| Rated frequency | Hz | -- | | | 50 ... 400 |
| Internal resistance | Ω | -- | | | 23 |
| Accuracy class | | -- | | | 1 |
| Thermal rated uninterrupted current | A | -- | | | 60 |
| Thermal rated short-time current (1 s) | A | -- | | | 300 |
| Dynamic rated current (30 s) | A | -- | | | 600 |