

Technical data

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Mobile control housings

Electrical data

| | |
|-------------------------------|---|
| Safety classification | 1 signal control category 4 (to EN 954-1) 4 signals control category B (to EN 954-1) |
| Voltage supply | Storage battery with 2.4 V rated voltage on the basis of 2 nickel metal hydride cells (NiMH) |
| Interfaces | 5 pole plug with dust cap for charging and programming (with transfer cable with RS 232 specifications) |
| Frequency range | 433/869 MHz |
| Transmission performance | 5 mW ERP |
| Operating duration | Ca. 50 h/100% ED |
| Storage battery charging time | Max. 3 h |

Mechanical data

| | |
|---------------------------------|---|
| Dimensions H/W/D | 95 x 116 x 220 mm (plus 180 mm antenna) |
| Mobile control housing | Make ROSE, types Pilot 20 and Pilot 150 |
| Control devices | Make ELAN |
| Housing material | Polyamide, coloured yellow similar to RAL 1021 Front panels: aluminium |
| Impact resistance | 7 Nm to EN 50 014 |
| Class of protection to EN 60529 | Housing WL01-ZB02...: IP 65 (ON/OFF sliding switch: IP 54) Housing WL01-ZB05...: IP 65 |
| Weight | approx. 0.6 kg, depending on version |

Environmental conditions

| | |
|-------------------------------|--|
| Ambient operating temperature | -10 ... +65 °C (not dewing) |
| Storage temperature range | -20 ... +35 °C < 1 year (depending on storage battery) |
| Climatic resistance | IEC EN 60 068 part 2-30 |
| Air clearance and creepage | EN 50 178 |
| Oscillations | EN 60 068-2-6 |
| EMC | EN 61 000-6-2: Electromagnetic compatibility – Standard resistance to interference for the industrial area – Special requirements of EN 61 496 are fulfilled |

Integrated control devices Pilot 20 and Pilot 150 (short form)¹

| | |
|---------------------|--|
| Regulations | IEC EN 60947-5-1/-5 |
| Front sided version | Encapsulated, class of protection IP 65 |
| Contacts | Cross-point contacts, depending on version as NC or NO contacts, NC contacts positively opening to IEC EN 60947-5-1/-5 |
| Temperature range | -10 ... +65 °C |

1) Further data: refer to Elan catalogues D-22.G and D-16.Z

Safety switches TZG... (short form)¹

| | |
|--|--|
| Regulations | IEC EN 60947-5-1 |
| Class of protection | IP 67 (switching chamber) IP 00 (articulated head) |
| Actuating force | Advancing actuator: 10 N Removing actuator: 20 N |
| Ambient temperature range | 0 ... +65 °C |
| Materials used | Glass fibre reinforced thermoplastics with self-extinguishing properties to UL 94-V-0, metal parts corrosion protected with protective coating (metal) |
| Cable bushing | M 20 x 1.5 |
| Terminal system | Self-lifting screw-on terminals with double slot screws |
| Wiring connections | Min. 0.5 mm ² , max. 2 x 2.5 mm ² rigid or 2 x 1.5 mm flexible with wire-end ferrules |
| Terminal designations | DIN EN 50 005/50 013 |
| Mechanical life | At least 1 x 10 ⁶ switching cycles |
| Shock resistance | > 30 g/18 ms |
| Vibration resistance | > 15 g/10 ... 200 Hz |
| Climatic resistance to EN 60068 | Part 2-30 |
| Rated operating voltage U _e max. | 400 V |
| Rated isolated voltage U _i | 400 V |
| Thermal rated current I _{the} ² | 10 A |
| Rated operating current U _e as dependant on utilisation category and test voltage | 250 V~/8 A |
| Electronic control | 24 V/10 mA |
| Isolation groups | C to IEC EN 60664-1 |
| Air clearance and creepage in accordance with IEC EN 60664-1/-5 | 4 kV/3 |
| Short-circuit protection | gG 10 A slow-blowing |

1) Further data: refer to Elan catalogue ZB/03

Analysis and control device

Type WL01-SFS.B.1.04.06/03.001



Analysis and control devices

Electrical data

| | |
|--|---|
| Safety-related classification | Control category 4 (to EN 954-1) |
| Rated operating voltage | 24 VDC \pm 10 %, residual ripple max. 10 % |
| Fusing of the operating voltage | T 6.3 A |
| Power consumption | \leq 15 VA (I/O's switched, plus load current) |
| Reaction time of the system | <ul style="list-style-type: none"> - Semi-conductor outputs via radio link: \leq 200 ms - Semi-conductor outputs via discrete inputs: \leq 50 ms |
| Number of inputs and outputs | <ul style="list-style-type: none"> - 4 discrete inputs - 1 + 4 radio-based inputs - 6 semi-conductor outputs - 3 signalling outputs (refer to page 15) |
| Inputs: | |
| Signal level at "0" | 0 ... 4.5 VDC |
| Signal level at "1" | 18 ... 28 VDC |
| Input current | 5 mA (at 24 VDC) |
| Minimal pulse duration | 20 ms |
| Outputs: | |
| Switching capacity of the semi-conductor outputs | 24 VDC/0.5 A |
| Switching capacity of the signalling outputs | 24 VDC/0.1 A |
| Interfaces | <ul style="list-style-type: none"> - RS 232 interface (Sub-D 9-pole) - BNC bushing 50 Ohm impedance (433 MHz band) - BNC bushing 50 Ohm impedance (869 MHz band) |
| LED displays | <ul style="list-style-type: none"> - U_B (operating voltage) - 433 MHz/869 MHz (function as for signalling output A01.0) - System/battery (function as for signalling outputs A01.1 and A01.2) - Refer also to box "signalling outputs", page 15 |

| Mechanical data | |
|----------------------------------|---|
| Dimensions H/W/D | 84 x 90 x 143 mm |
| Housing material | Glass-fibre reinforced thermoplastics with self-extinguishing properties to UL-94-V-0 |
| Colour | Signal red RAL 3000 |
| Assembly on top hat rail | to DIN EN 50 022 |
| Class of protection of housing | IP 40 |
| Class of protection of terminals | IP 20 |
| Cable connections | Self-lifting screws on terminals min. 0.5 mm ² , max. 2.5 mm ² , individual conductors or multicore cables with wire-end ferrules |
| Weight | approx. 0.6 kg |
| Ambient conditions | |
| Ambient operating temperature | -20 ... +55 °C (not dewing) |
| Storage temperature range | -25 ... +70 °C |
| Climatic resistance | IEC EN 60 068 part 2-30 |
| Air clearance and creepage | EN 50 178 |
| Oscillations | EN 60 068-2-6 |
| EMC | EN 61 000-6-2: Electromagnetic compatibility – specialised basic standard: resistance to interference for the industrial area. Special requirements of EN 61 496 are satisfied. |
| Details on IEC EN 61 508 | |
| 2-channel safety functions | PFH < 8.2 x 10 ⁻⁹ SIL 3 to IEC EN 61 508 (including radio-based safety function for EMERGENCY STOP or shut down of the supply voltage) |
| 1-channel safety functions | PFH < 0.18 x 10 ⁻⁵ SIL 1 to IEC 61 508 (including signal processing of the radio-based useful signals) |
| Signalling outputs | Without special safety tuning |

Receiving antennas and connecting cables

Antenna
Type WL01-SFS.A.01.01 (433 MHz)



Antenna
Type WL01-SFS.A.01.02 (869 MHz)



Connecting cable with BNC adapters
Type WL01-SFS.C.01.xx (xx = length in m)



Receiving antennas/connecting cables

Antenna (433 MHz band)

| | |
|------------|----------------------------------|
| Type | ½ λ Dipole antenna (380–470 MHz) |
| Connection | BNC |
| Impedance | nominal 50 Ohm |
| Length | 380 mm |
| Colour | black |

Antenna (869 MHz band)

| | |
|------------|------------------------------------|
| Type | 1/2 λ Dipole antenna (820–960 MHz) |
| Connection | BNC |
| Impedance | nominal 50 Ohm |
| Length | 190 mm |
| Colour | black |

Antenna cable

| | |
|----------------------|---|
| Connection/discharge | BNC/plug straight – BNC/plug straight |
| Cable | RG 58 C/U |
| Impedance | nominal 50 Ohm |
| Lengths | 1 m, 2 m, 3 m, 5 m, 10 m, 15 m, 20 m, 30 m; other lengths: on request |

Charger

Type WL01-SFS.LG.01.230



Charger

Electrical data

| | |
|-------------------------|--------------------------|
| Rated operating voltage | 230 VAC ± 20 % |
| Output voltage | nominal 2.4 V (max. 5 V) |
| Charging procedure | -dU/dt |
| Charging status display | LED |

Mechanical data

| | |
|--------------------------|------------------|
| Dimensions H/W/D | 120 x 70 x 90 mm |
| Length of charging cable | approx. 1.5 m |
| Class of protection | IP 20 |
| Weight | 0.6 kg |

Ambient conditions

| | |
|----------------------------|---------------------------|
| Rated ambient temperature | 0 ... +40 °C (not dewing) |
| Storage temperature range | -25 ... +70 °C |
| Climatic resistance | IEC EN 60 068 part 2-30 |
| Air clearance and creepage | EN 50 178 |

Accessories

BNC angular adapter (fm)
Type WL01-SFS.BNCW.01



Antenna attachment bracket with BNC adapter
Type WL01-SFS.BW.01



Programming cable analysis and control device
Type WL01-SFS.PK.01



Programming cable for the mobile control
WL01-SFS.PK.02



Accessories

BNC angular adapter (fm)

| | |
|---------|---|
| Adapter | BNC/bushing straight – BNC/plug angled |
| Purpose | Space-saving antenna connection in the switch cabinet |

Antenna attachment bracket with BNC adapter

| | |
|--------------------|---|
| Material | Plastic |
| Colour | Grey |
| Connection | BNC/bushing straight – BNC/bushing straight, isolated |
| Purpose | Wall fitting |
| Dimensions (H/W/D) | 30 mm x 50 mm x 30 mm |

Programming cable analysis and control device

| | |
|--------|-------------|
| Length | approx. 2 m |
|--------|-------------|

Programming cable mobile control housing

| | |
|--------|---------------|
| Length | approx. 1.9 m |
|--------|---------------|

Software/operating instructions

Contained in the scope of delivery.