Universal Limit Switch Box

Offers a wide range of signalling options in a zinc alloy fully enclosed corrosion resistant case available for direct mounting onto Kinetrol rotary actuators, or discrete mounting via an industry standard VDI/VDE interface onto any make of rotary actuator. Easy to wire and set up with real industrial-quality robustness. Internally fitted options include AS interface digital communication and a 4-20 mA 2-wire modulating angle retransmit circuit.

The range of switch and terminal arrangements includes 2 or 4 switches, extra connections allowing single point termination of wiring for limit switches and solenoid valves, ATEX approved Exeex (Category 2) explosion proof and Exeexa intrinsically safe packages (Category 1). Integral sealed Clear Cone Monitor and red / green LED indicator options also give excellent visual indication of position.

COUPLING – Made from strong plated steel with striker clamps in reinforced polymer, easily adjusted using a screwdriver. Kinetrol direct mount options employ female squares fitting onto a standard actuator, while the VDI-VDE interface option has a standard male drive interface and the Kinetrol discrete option has a simple male drive square. Special strikers with metal inserts are used with inductive proximity sensors. The angle retransmit option uses a special coupling with a gear form on its outer diameter, which engages with a sprung gear on the pot shaft to give a backlash free drive.

OPTIONAL ANGLE RETRANSMIT – Integrated assembly comprising circuit, feedback pot and drive gear fits inside standard box. Loop powered 2-wire circuit passes 4 – 20 mA current proportional to the pot shaft to give a backlash free drive. 2 or 4 conduit entry options are available, to cover all requirements with least weight and maximum simplicity.

OPTIONAL AS INTERFACE CIRCUIT – Fits inside standard box to give control and monitoring by serial communication of up to 31 actuators (61 for certain applications). All power and communications for circuits and actuator solenoid valves can be carried via one 2-wire cable. See KF-496 for full details.

LED INDICATORS – Bright red and green LED inserts can be attached via four M3 screws to the standard conduit entries on the limit switch box, sealed on by integral O-rings. 110-240 v AC, 12-24 v DC and AS Interface compatible options are available, to give clear bright external signalling of actuator position.

ENCLOSURE – Made of robust epoxy-coated zinc alloy, with O-ring sealing. Low level joint line gives best access to connectors and adjustments. 2 or 4 conduit entry options are available, to cover all requirements with least weight and maximum simplicity.

CLEAR CONE MONITOR – Externally visible position indication shows open-shut status and/or angular position viewed from any angle above the lid – made of robust transparent polymer fully sealed onto the metal lid. A special option for extra chemical resistance is available.

STANDARD TERMINAL BLOCKS – 20off 3-way blocks accommodating up to a 2.5mm² cable fitted directly adjacent to conduit entries, plus optional third and fourth 3-way blocks for single point termination of external solenoid valve or extra limit switches. Internal and external earth connections are also provided.

MULTI TERMINAL OPTION – PCB mounted option gives 4 x 3 way switch terminals, plus 3-way termination for external solenoid and 2-way termination for 4-20mA angle retransmit wiring, all immediately adjacent to conduit entries.

M12 PLUG OPTION – Allows easy external connection of AS interface bus via fixed M12 type 4-way socket in conduit entry.

OPTIONAL AS INTERFACE CIRCUIT – Fits inside standard box to give clear bright external signalling of actuator position.

STANDARD MICROSWITCHES

<table>
<thead>
<tr>
<th>VOLTAGE RESISTIVE LOAD</th>
<th>MULTIPLEXION FACTORS</th>
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</thead>
<tbody>
<tr>
<td>250 V ac</td>
<td>10.6</td>
</tr>
<tr>
<td>125 V ac</td>
<td>15</td>
</tr>
<tr>
<td>up to 24 V dc</td>
<td>10</td>
</tr>
<tr>
<td>up to 48 V dc</td>
<td>5</td>
</tr>
<tr>
<td>up to 110 V dc</td>
<td>2.5</td>
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</tbody>
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SPECIFICATION

CABINETS – Precision diecast zinc alloy.

FINISH – Epoxy stove enamel.

SEALS – Nitrile rubber ‘O’ ring seals.

WEIGHT – 1.4Kg.

CABLE ENTRY OPTIONS - M20 x 1.5 Conduit thread. 1/2" 14 NPS Conduit Thread. 4 Way plug DIN 43650A (fits any of above). 4 Way M12 Connector (N). 3 TERMINAL DIN PLUG – Retrofittable option for limit switches and solenoids, and/or angle retransmit signal allowing rapid connection of pre-wired installations with 4-direction adjustability.

TEMPERATURE RANGE -

-40°C to +100°C
-20°C to +80°C
-25°C to +70°C
-35°C to +80°C
-40°C to +70°C

SPECIAL OPTIONS

- All units sealed to IP65 / NEMA 4X IP67 versions available.
- Robust corrosion resistant epoxy painted diecast zinc alloy box.
- Easy and accurate setting of switch position.
- Available for direct mounting to Kinetrol models 03 to 15, for minimum height.
- Quick access to all connections.
- Dedicated VDI/VDE interface option for use with industry standard actuators.
- Two or four cable entries as standard to allow back wiring of standard solenoids.
- Many switch options available for general and hazardous areas.
- All interface bus circuit option inside box reads up to 4 switch inputs, drives up to 2 solenoids powered by bus only. (see KF 496).
- Optional clear cone monitor available.
- Integral LED indicator lamps and angle retransmit circuit options are available.

FOR NON-RESISTIVE LOADS

Current rating 15 A

- Steady state Inertial load – x 0.7
- Peak Inertial load – x 1.0
Further switch options are available upon request - contact Kinetrol for details.

074 - 009B001300 = 07 ULS BOX WITH 2 X V3 i-SAFE MECH.SWITCHES G / PLATED, STANDARD ASi + 2 TRANSIT PLUGS & ASi TERMINALS + 2 LED'S RED & GREEN  NOT APPROVED

094 - 124B00A00M = 09 SPRING RETURN ACTUATOR & ULS BOX WITH 2 X V3 SPDT SWITCHES + STANDARD ASi & ASi TERMINALS + M12 PLUG + TRANSIT PLUG + CLEAR CONE MONITOR  NOT APPROVED

074 - 009C001000 = 07 ULS BOX WITH 2 X V3 i-SAFE MECH.SWITCHES G / PLATED, ASi WITH EXTENDED ADDRESSING OUTPUTS DISABLED + 2 TRANSIT PLUGS  NOT APPROVED

074 - 004U001200 = 07 ULS BOX WITH 2 X V3 SPDT SWITCHES + 2 TRANSIT PLUGS + LED'S RED / GREEN 12 / 24 V dc  NOT APPROVED

074 - 004R022000 = 07 ULS BOX WITH 2 X V3 SPDT SWITCHES + 1 TRANSIT & 1 BLANKING PLUG & ANGLE RETRANSMIT ACW  NOT APPROVED

054 - 001R011000 = 05 ULS BOX WITH 2 X V3 i-SAFE PROXIMITY SENSORS, 2 TRANSIT PLUGS & 2 X 3 WAY TERMINALS, AR CW  NOT APPROVED

054 - 001U001000 = 05 ULS BOX WITH 2 X V3 i-SAFE PROXIMITY SENSORS, 2 TRANSIT PLUGS & 2 X 3 WAY TERMINALS  ATEX APPROVED

EXAMPLES:

ORDERING CODES

DIMENSIONS

A=4x CODE 1 SENSORS 7.530Vdc †
C=4x CODE 6 SENSORS †
N=2x 10-30Vdc PNP 3 WIRE PROX. SENSORS †
F=4x CODE E SENSORS †
E=2x V3 20-140Vac / 10-140Vdc INDUCTIVE SENSORS †
D=4x CODE 9 SWITCHES †
B=4x CODE 5 SENSORS †
9=2x V3 SPDT i-SAFE (GOLD PLATED) ATEX
8=2x SLOTTED PROX SENSORS †
7=4x V3 SPDT SWITCHES †
6=2x 5-60Vdc PROX.SENSORS †
5=2x 20-250Vac PROX. SENSORS †
4=2x V3 SPDT SWITCHES †
3=2x SWITCHES EExe II T6 CERTIFIED ATEX
2=2x PNEUMATIC SWITCHES ATEX
1=2x V3 i-SAFE PROXIMITY SENSORS ATEX
0=CONTACT KINETROL FOR DETAILS

OPTIONAL
† NOT AVAILABLE ON ATEX VERSIONS

The policy of Kinetrol is one of continuous improvement. We reserve the right to alter the product as described and illustrated without notice. For confirmation of the current specification, contact Kinetrol Limited.