

# Kinetrol VLS/ULS Limit Switch Box

Offers a wide range of signalling options in a fully enclosed, corrosion resistant metal 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 industrial standard robustness. Internally fitted options include AS Interface digital communication and a 4-20mA, 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 Ex d (Category 2) explosion proof and Ex ia intrinsically safe packages (Category 1). Integral sealed Clear Cone Monitor and red/green LED indicator options also give high visibility external visual indication of position.



## Specification

### Casing

Precision diecast aluminium alloy, switch option 003 Ex d diecast zinc alloy

### Finish

Epoxy stove enamel

### Seals

Nitrile rubber 'O' ring seals

### Cable entry options

2 or 4 entries

M20 x 1.5 Conduit thread  
or  
½ NPS Conduit thread

4 Way plug DIN 43650A  
(fits either conduit thread)

4 Way M12 Connector  
(M20 Conduit thread only)



ATEX Up to Category 1

## Options

- Discrete VDI/VDE (NAMUR) interface option for use with any industry standard rotary actuators
- Units sealed to IP67/NEMA 6 (ATEX units IP66/NEMA 4X, IP67 option available)
- Robust corrosion resistant epoxy painted diecast box
- Easy and accurate setting of switch position
- Available for direct mounting to Kinetrol models 03 to 15 (for minimum height)  
Discrete Kinetrol 05 square drive insert for use with Kinetrol actuator models 16 to 60
- Quick access - No special tools required
- Two or four cable entries as standard to allow back wiring of solenoid valves
- Multiple switch options available for general and hazardous areas
- AS Interface bus circuit option inside box reads up to 4 switch inputs, drives up to 2 solenoids powered by bus only (see Kinetrol ASi Interface Bus Communication data sheet for more information)
- DeviceNet option inside box with various network speeds allows 2 on / off inputs and drives up to 2 solenoids (see Kinetrol DeviceNet Communications data sheet for more information)
- Optional Clear Cone monitor available
- Integral LED indicator lamps and angle retransmit circuit options are available

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## LOAD RATINGS FOR STANDARD MICROSWITCHES (type 004)

| Voltage        | Resistive Load |
|----------------|----------------|
| 125 V AC       | 15A            |
| 250 V AC       | 15A            |
| up to 12 V DC  | 15A            |
| up to 24 V DC  | 10A            |
| up to 48 V DC  | 3A             |
| up to 250 V DC | 0.25A          |

## MULTIPLICATION FACTORS FOR NON-RESISTIVE LOADS

|                                 |         |
|---------------------------------|---------|
| Steady state tungsten lamp load | - x 0.1 |
| Steady state inductive load     | - x 0.2 |
| Peak inductive load             | - x 1.0 |

## Weight

|                    |   |                   |
|--------------------|---|-------------------|
| VLS                | – | 0.68 kg / 1.50 lb |
| ULS Switch Options |   |                   |
| 003                | – | 1.40 kg / 3.09 lb |

## Temperature Range

Standard -20°C to +80°C (-4°F to +176°F)  
High Temp Seals up to 100°C (212°F)  
Also see switch temperatures

## Switch Options

### Switch Type 001

2 intrinsically safe 2 wire inductive proximity sensors for hazardous areas (ATEX CAT 1), normally closed.  
Ambient temperature range -20°C to +80°C (-4°F to +176°F)  
ATEX Monitor must be fitted

### Switch Type 002

2 pneumatic switches with 4mm (5.32") push in fittings (ATEX CAT 2), normally closed.  
Ambient temperature range -15°C to +60°C (+5°F to +140°F)

### Switch Type 003

Certificated unit to EEx ed II T6 for hazardous areas to Zone 1 (ATEX CAT 2) 2 x 3 wire switches for SPDT.  
Ambient temperature range -20°C to +70°C (-4°F to +158°F)

### Switch Type 004

2 x 3 wire microswitches for SPDT.  
Ambient temperature range -40°C to +80°C (-40°F to +176°F)

### Switch Type 005

2 x 2 wire proximity sensors 20-250 volts AC, 10-300 volts DC, normally open.  
Ambient temperature range -25°C to +70°C (-13°F to +158°F)

### Switch Type 006

2 x 2 wire proximity sensors 5-60 volts DC, normally open, with LED switch status indicators.  
Ambient temperature range -20°C to +80°C (-4°F to +176°F)

### Switch Type 007

4 x 3 wire microswitches for SPDT.  
Ambient temperature range -40°C to +80°C (-40°F to +176°F)

### Switch Type 008

2 x 2 wire inductive slotted proximity sensors, normally closed.  
Ambient temperature range -20°C to +80°C (-4°F to +176°F)

### Switch Type 009

2 x 3 wire gold plated contacts intrinsically safe microswitches for SPDT (ATEX CAT 1).  
Ambient temperature range -20°C to +80°C (-4°F to +176°F)  
ATEX Monitor must be fitted

### Switch Type 00A

4 intrinsically safe 2 wire inductive proximity sensors for hazardous areas (ATEX CAT 1), normally closed.  
Ambient temperature range -20°C to +80°C (-4°F to +176°F)  
ATEX Monitor must be fitted

### Switch Type 00D

4 x 3 wire gold plated contacts intrinsically safe microswitches for SPDT (ATEX CAT 1).  
Ambient temperature range -20°C to +80°C (-4°F to +176°F)  
ATEX Monitor must be fitted

### Switch Type 00E

2 x 2 wire proximity sensors 20-140 volts AC / 10-140 volts DC.  
Ambient temperature range -25°C to +80°C (-13°F to +176°F)

### Switch Type 00M

4 x 3 wire inductive proximity sensors 10-30 volts DC, normally open.  
Ambient temperature range -25°C to +70°C (-13°F to +158°F)

### Switch Type 00N

2 x 3 wire inductive proximity sensors 10-30 volts DC, normally open.  
Ambient temperature range -25°C to +80°C (-13°F to +176°F)

### Electronics Option B - E \*

AS interface options are available with both the two and four entry Kinetrol VLS Limit Switch Box. Options B to E allow for different extended addressing options.

### Electronics Option P \*

Two or four way VLS Limit Switch Box fitted with potentiometer (20K ohms conductive plastic type).

### Electronics Option R \*

Two or four entry VLS Limit Switch Box fitted with angle retransmit, loop powered two wire circuit passes 4-20mA current, proportional to 0-90° position of actuator.

### Electronics Option U (standard) \*

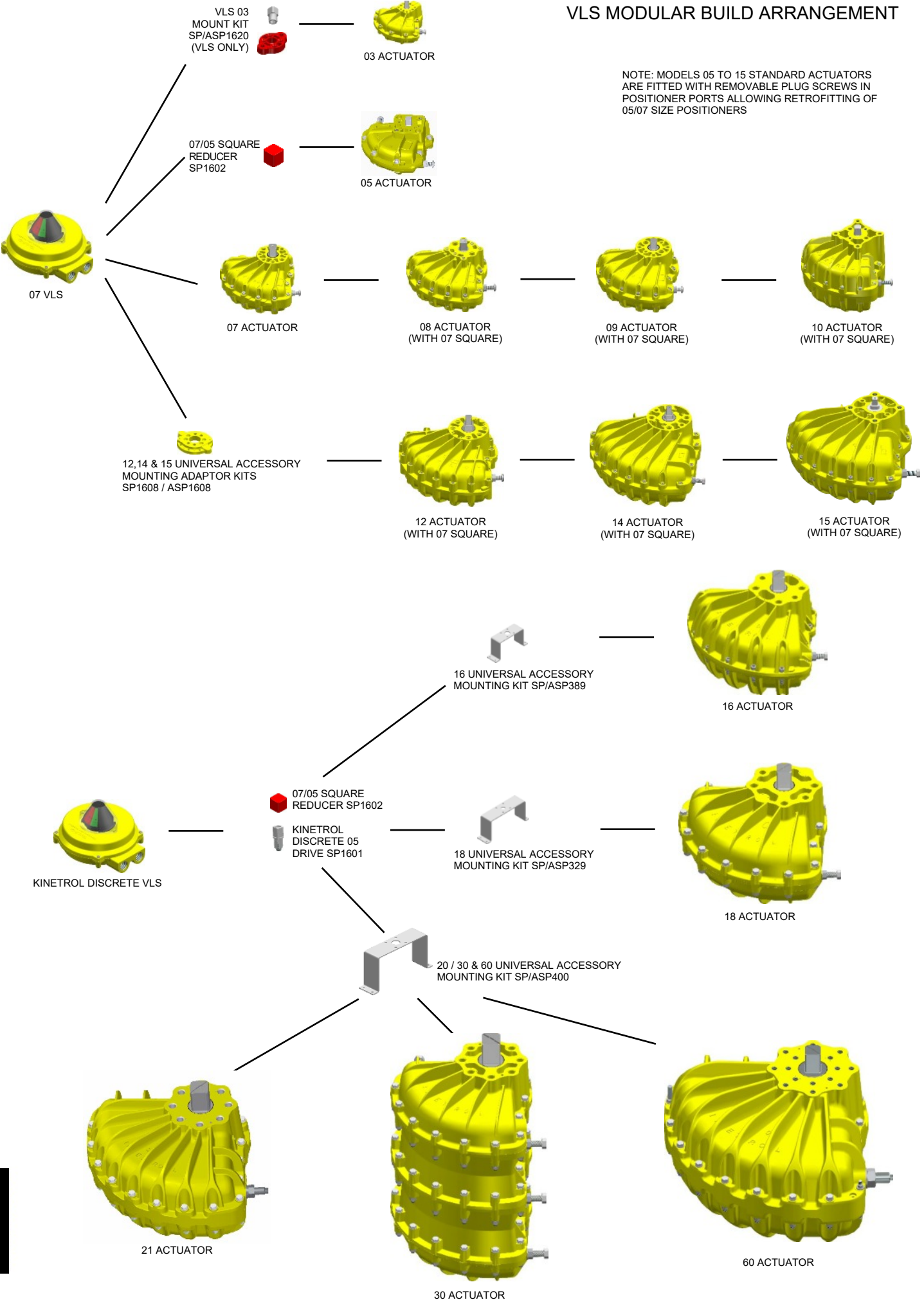
Two or four entry VLS Limit Switch Box without AS interface card, angle retransmit or potentiometer.

For ATEX ratings please refer to TD139

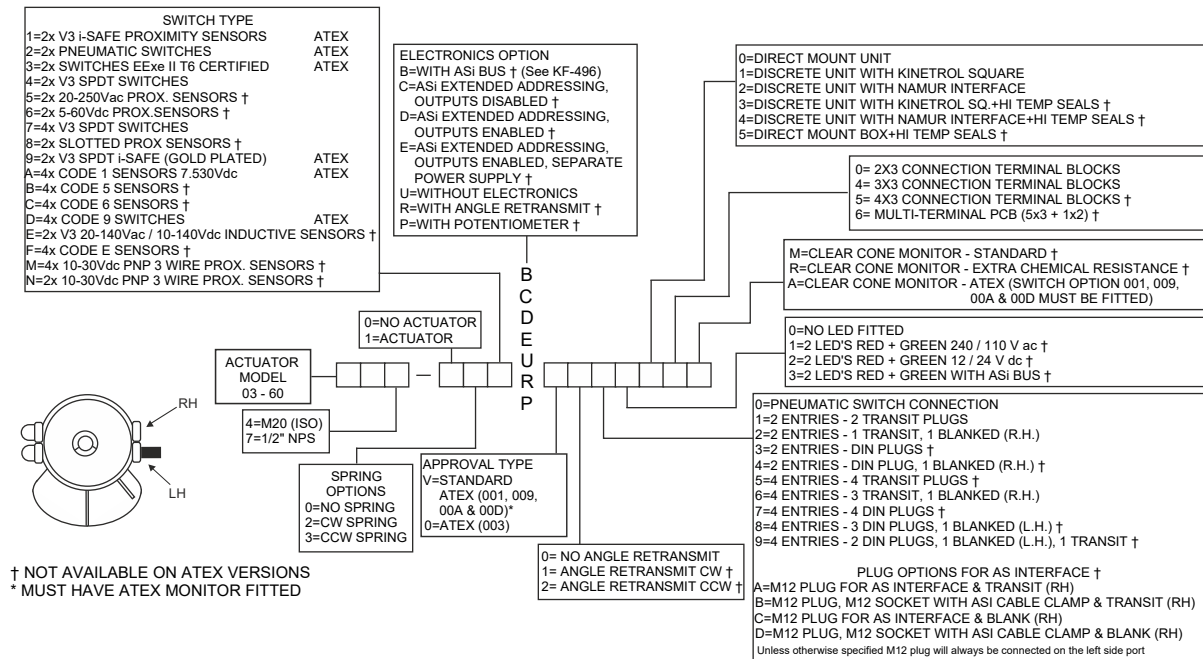
\* For more details on Electronics options see Kinetrol Asi Interface Bus Communication data sheet

# Kinetrol VLS/ULS Limit Switch Box

## VLS MODULAR BUILD ARRANGEMENT

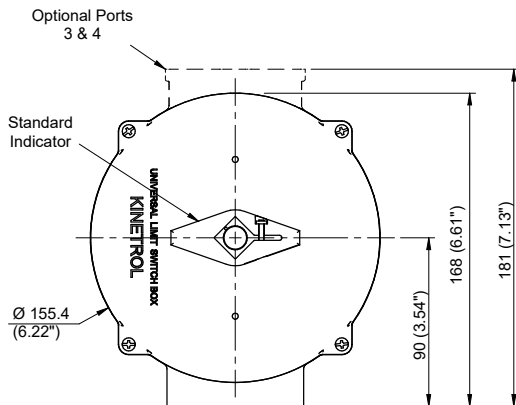


## Ordering Codes

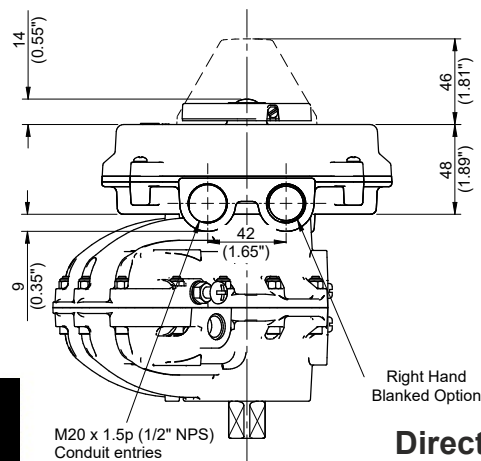


EXAMPLES:  
074-001U01000A = 07 VLS BOX WITH 2 X V3 ISAFE PROXIMITY SENSORS, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS, ATEX CLEAR CONE MONITOR, ATEX APPROVED  
074-004U01000 = 07 VLS BOX WITH 2 X V3 SPDT SWITCHES, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS  
074-004U012000 = 07 VLS BOX WITH 2 X V3 SPDT SWITCHES, ANGLE RETRANSMIT CLOCKWISE, 1 X TRANSIT & 1 BLANKING PLUG, 2 X 3 WAY TERMINALS  
094-124B02000 = 09 SPRING RETURN CLOCKWISE ACTUATOR & VLS BOX WITH 2 X V3 SPDT SWITCHES, STANDARD ASI, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS  
094-109U01000A = 09 DUMP RETURN ACTUATOR, VLS BOX WITH 2 X V3 ISAFE MECH. SWITCHES GOLD PLATED, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS, ATEX CLEAR CONE MONITOR, ATEX APPROVED

## Dimensions

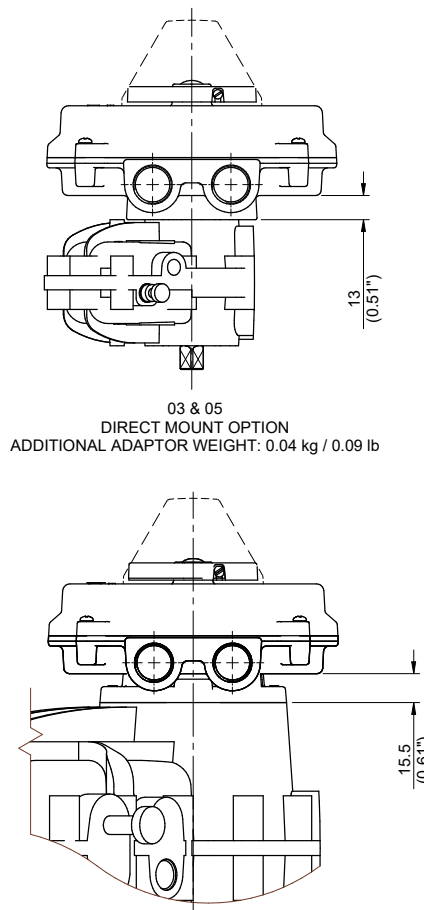


Standard Orientation Of Unit  
Box Weight: 0.68 kg / 1.5 lb

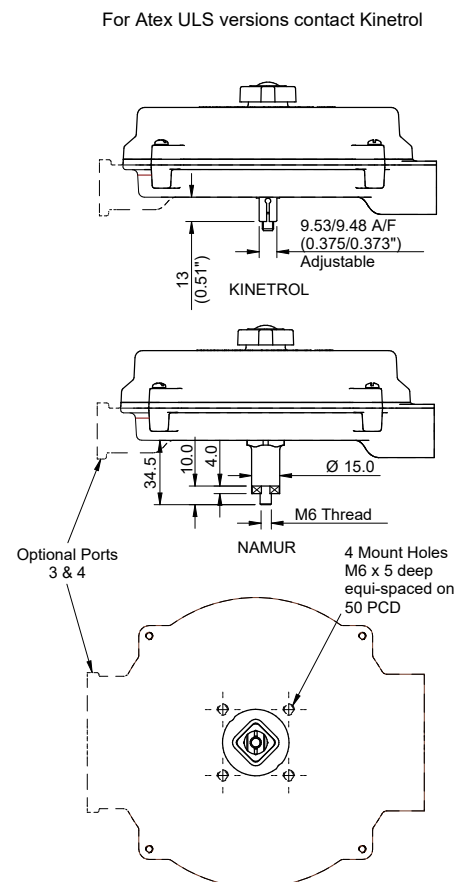


## Direct Mount Option

07, 08, 09, 10  
DIRECT MOUNT OPTION



12, 14 & 15  
DIRECT MOUNT OPTION  
ADDITION ADAPTOR WEIGHT: 0.56 kg



### Kinetrol & Namur Discrete Mount Option