

# 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
- Compact SPST version of type 004 available for model 02 actuator

# Kinetrol VLS/ULS Limit Switch Box

## 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		
001 and 009	-	1.05 kg / 2.31 lb
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)

### 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 DPDT.  
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)

### 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) \*

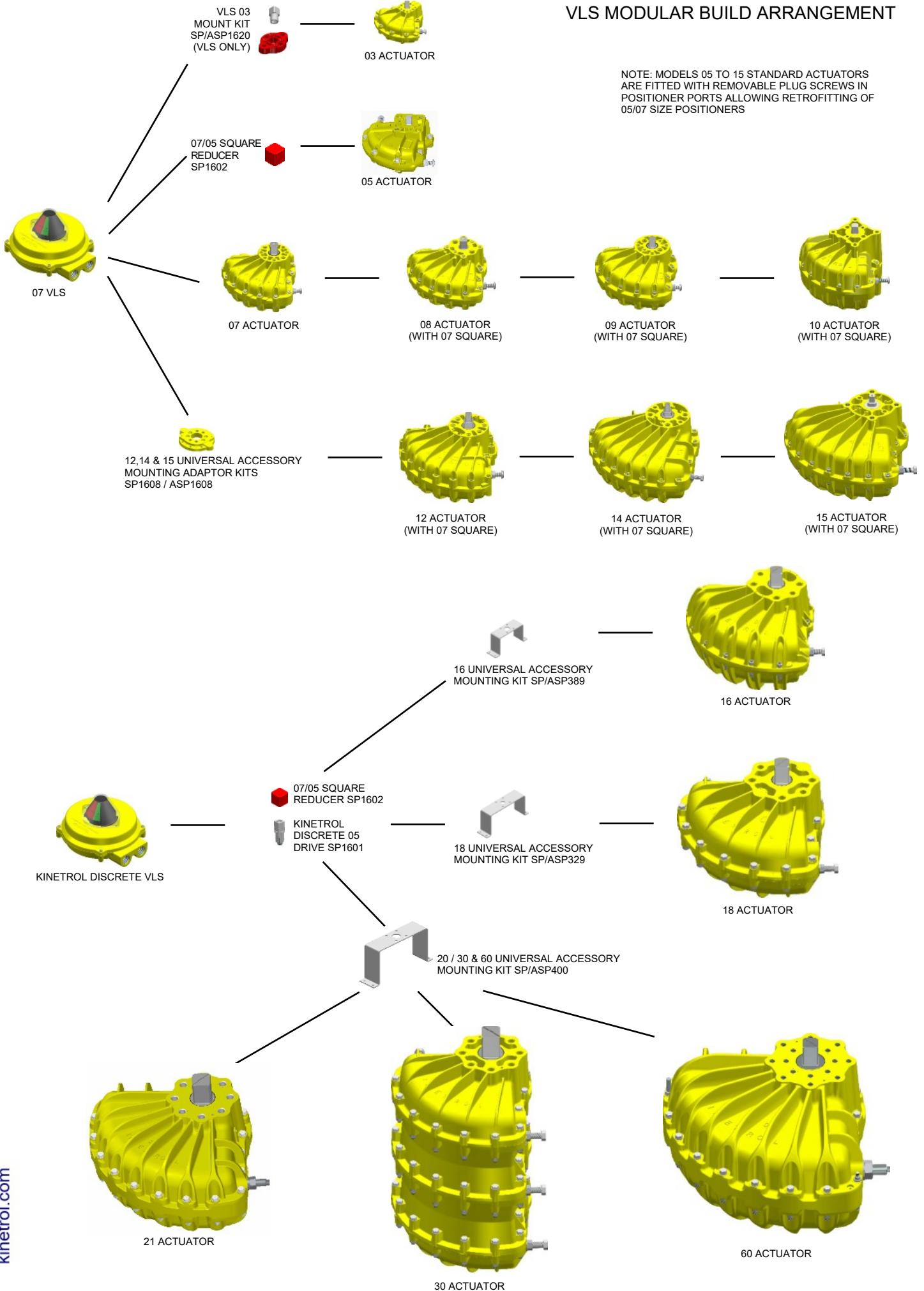
Two or four entry VLS Limit Switch Box without AS interface card, angle retransmit or potentiometer.

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

For ATEX ratings please refer to TD139

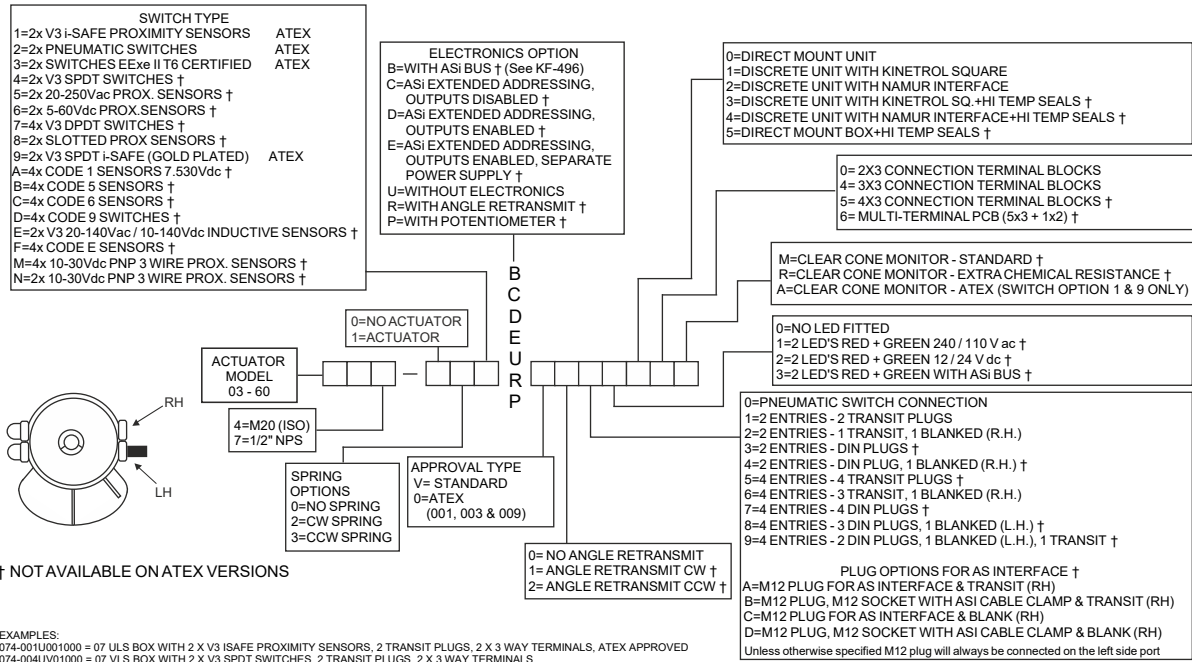
# Kinetrol VLS/ULS Limit Switch Box

## VLS MODULAR BUILD ARRANGEMENT



# Kinetrol VLS/ULS Limit Switch Box

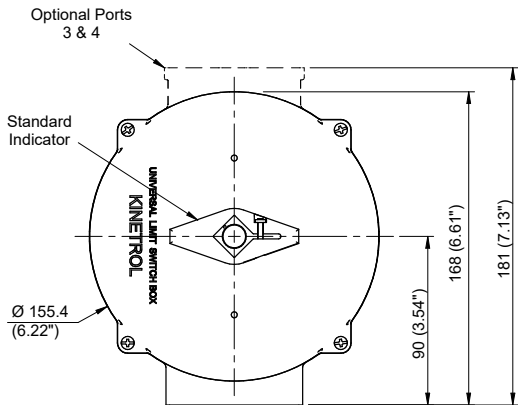
## Ordering Codes



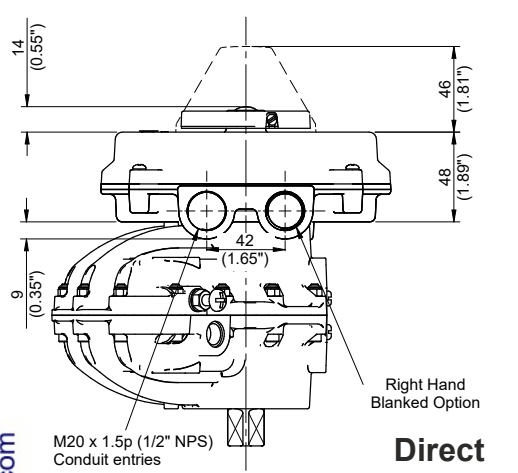
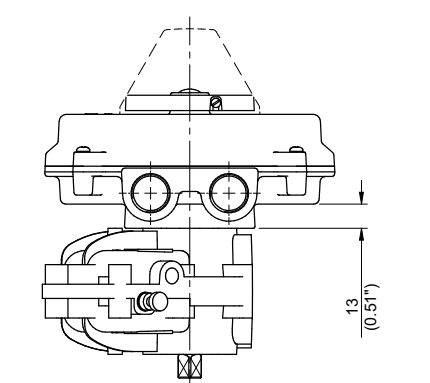
EXAMPLES:  
 074-001U001000 = 07 ULS BOX WITH 2 X V3 ISAFE PROXIMITY SENSORS, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS, ATEX APPROVED  
 074-004UV01000 = 07 VLS BOX WITH 2 X V3 SPDT SWITCHES, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS  
 074-004RV12000 = 07 VLS BOX WITH 2 X V3 SPDT SWITCHES, ANGLE RETRANSMIT CLOCKWISE, 1 X TRANSIT & 1 BLANKING PLUG, 2 X 3 WAY TERMINALS  
 094-124BV02000 = 09 SPRING RETURN CLOCKWISE ACTUATOR & VLS BOX WITH 2 X V3 SPDT SWITCHES, STANDARD ASI, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS  
 094-109U001000 = 09 DOUBLE ACTING ACTUATOR, ULS BOX WITH 2 X V3 ISAFE MECH. SWITCHES GOLD PLATED, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS, ATEX APPROVED

Further switch options are available upon request - contact Kinetrol for details

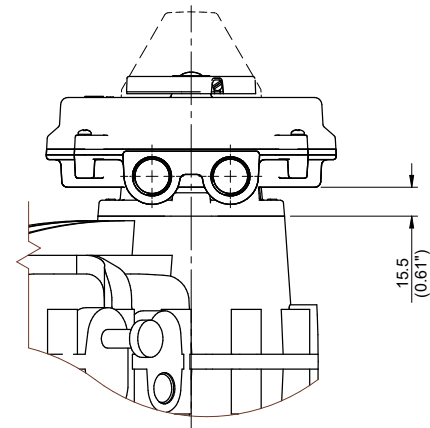
## Dimensions



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

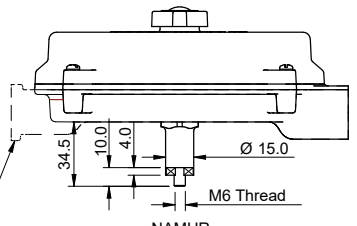
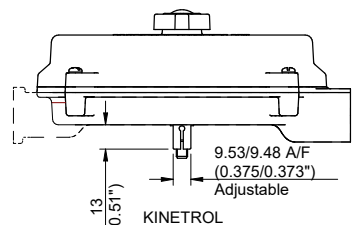


07, 08, 09, 10  
 DIRECT MOUNT OPTION



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

For Atex ULS versions contact Kinetrol



Optional Ports 3 & 4

4 Mount Holes M6 x 5 deep equi-spaced on 50 PCD

## Kinetrol & Namur Discrete Mount Option