

KINETROL

INSTALLATION, MAINTENANCE AND OPERATION
INSTRUCTIONS - Metric Units

ATEX
IECEX

Ex d IIC T5 ExtD A21
IP66 T95°C  II 2GD CE

X LIMIT SWITCH BOX

SWITCH TYPE: 004
INSTALLATION

SUITABLE FOR:
CLOSE MOUNT TO KINETROL ACTUATORS SIZE RANGE 03 TO 14
DISCRETE MOUNT TO KINETROL ACTUATORS SIZE RANGE 16 TO 30
CUSTOM MOUNT TO ALTERNATIVE DEVICES

1. Remove temporary threaded plug(s).
2. IECEX / ATEX installation - Refer to EN60079-14, customer to supply and fit Ex approved cable glands or conduit seals. Gas group IIA 10mm, IIB 30mm, IIC 40mm minimum gap between flamepaths and surrounding equipment (excluding mount bracket and Kinetrol clear cone monitor). Non-hardening grease may be re-applied to coupling flamepath and thread.
3. Connect cable terminals as per wiring diagram overleaf. Use cable size range 0.5mm² to 2.5mm², AWG 24 to 12.
4. Standard materials of construction:
 - Main body & lid - LM24 diecast Anodised & Epoxy painted
 - Shaft - Zinc plated mild steel or stainless steel
 - Switch body - Glass filled nylon 66
 - Switch contacts - Fine silver
 - Rubber seals - NBR & FLUOROCARBON RUBBER
 - Terminal strip - Gemin (KRG)
 - Switch cables - PVC coated copper
5. Operating conditions:
 - Maximum angle of travel: 110°.
 - Vibrating conditions: 4G @ 100Hz.
 - Ambient temperature range: -40°C to +80°C.
 - Dust: DO NOT allow dust to accumulate.
 - Wipe clean to prevent over heating.
6. Close mount units: Fixing screws supplied. Only use replacement parts supplied by Kinetrol. To mount on 03 actuator insert SP1604, to mount on 05 actuator insert SP1602 into XLS coupling drive square, attach mount plate to actuator then XLS to plate as shown overleaf (figures 1 & 2), ensure the coupling groove is inline with the vane blade to reduce wear (see figure 4).
7. Discrete mount units: Discrete mount units are designed to be bracket mounted to the actuator and are fitted with either a male Kinetrol square or a namur VDI/VDE interface insert (including SP1602). Ensure mounting arrangement does not apply side or end load to the switch box shaft. To install Kinetrol Square, ensure anti-backlash screw is slack, insert solid end into 05-07 adaptor then into recess in XLS coupling, attach bracket to XLS then to actuator, ensure the coupling groove is inline with the vane blade to reduce wear and tighten anti-backlash screw (figure 5).
8. Lid assembly - Ensure threads are free from debris, apply small amount of grease if dry and ensure 2 o'rings are in place, screw lid on to base hand tight.
9. Tighten lid securing screw to lock lid (see figure 1) to ensure lid does not rotate during use.

SWITCH OPERATING CONDITIONS		
VOLTAGE	RESISTIVE LOAD	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
MAXIMUM LOADING 10 ⁶ OPERATIONS		
125Vac	3.5 A	
250Vac	2.4 A	
24Vdc	15 A	
48Vdc	1.8 A	
MAXIMUM LOADING		
250Vac	16 A	

MAINTENANCE

1. Ensure explosive atmosphere is not present and box is not energized.
2. Lid removal - Slacken lid securing screw (see figure 1), use tool (SP1600) to remove lid while protecting paint, alternatively carefully insert screw driver into lid serrations and lever against bolt on box.
3. Coupling removal - Slacken coupling retainer screw (see figure 1) push retainer towards centre and pull coupling being careful not to damage flamepath, there is an 'o' ring at the end of the shaft located in the body.
4. Box removal - Undo 2 nuts on underside of the plate and lift box.
5. Ensure threaded and cylindrical flamepaths are undamaged.
6. Check for wear in coupling flamepaths by measuring diameter of the shaft and bore, the maximum permissible difference in diameters is 0.08mm over the entire length, to ensure a complete flamepath.

TO RE-ASSEMBLE

1. Refit coupling & tighten retainer screw.
2. Reinstall limit switch box as prescribed in installation section.

**TO MAINTAIN PROTECTION ENSURE
LID IS TIGHTLY CLOSED AND LOCKED
BEFORE ENERGISING CIRCUITS**

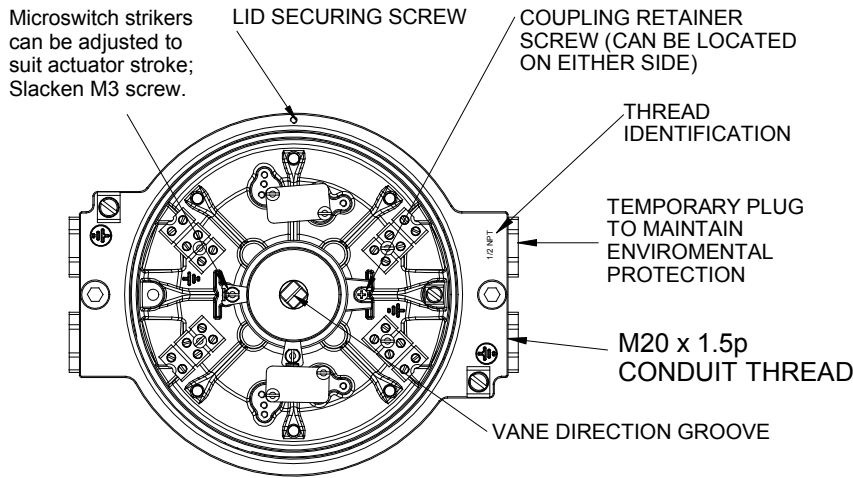
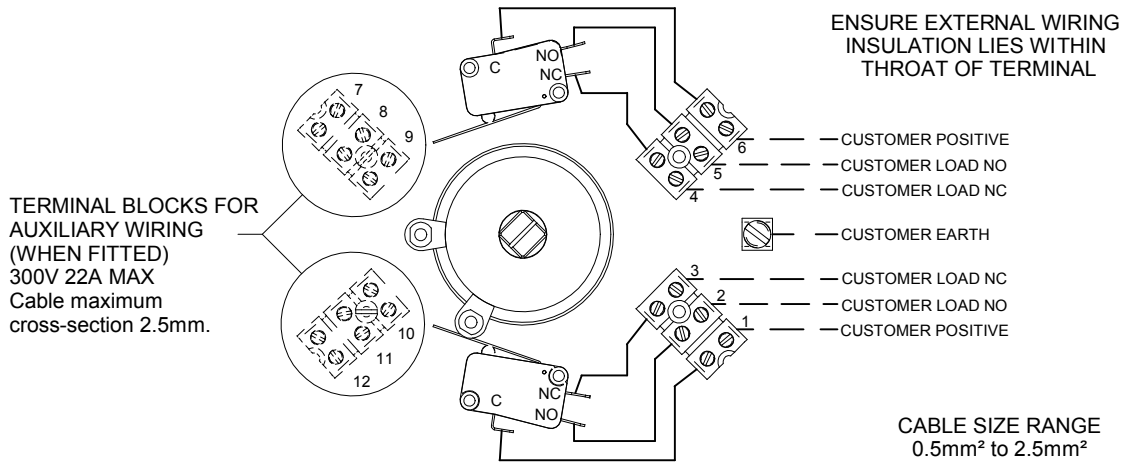


FIGURE 1 - BOX INTERNAL

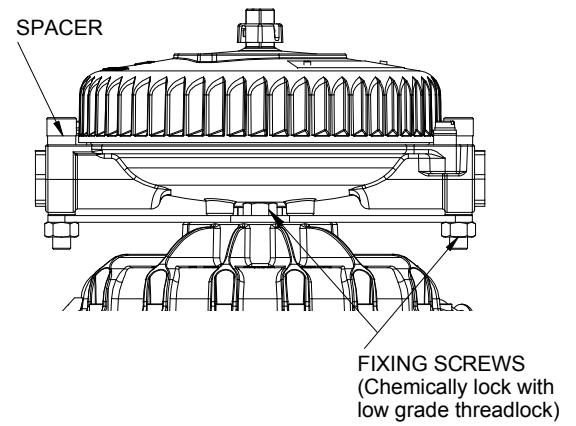


FIGURE 2 - CLOSE MOUNT SHOWN ON 07

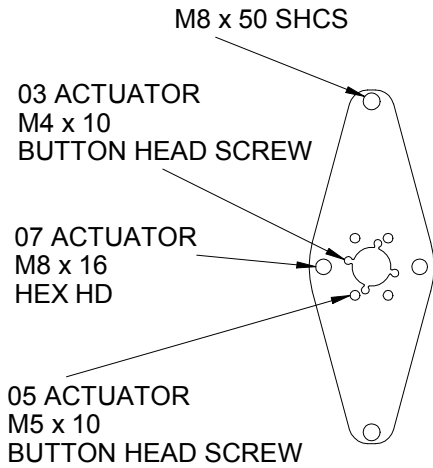


FIGURE 3 - CLOSE MOUNT PLATE

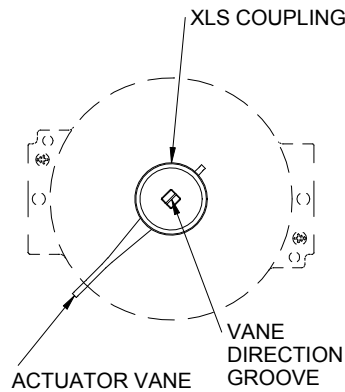


FIGURE 4 - VANE GROOVE

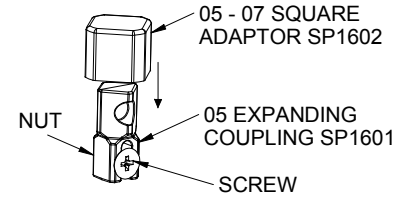


FIGURE 5 - KINETROL SQUARE INSERT

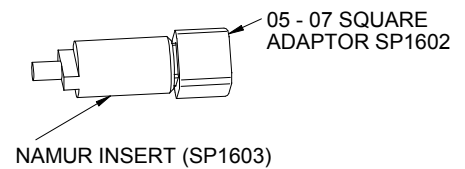


FIGURE 6 - NAMUR INSERT

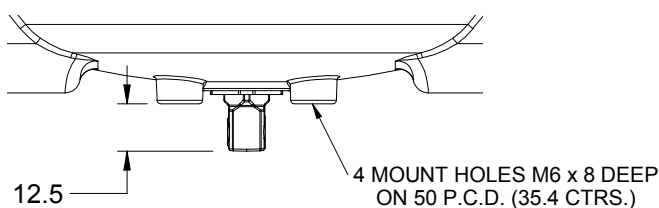


FIGURE 7 - DISCRETE MOUNT KINETROL SQUARE

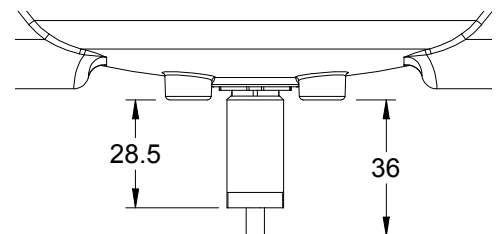


FIGURE 8 - DISCRETE MOUNT NAMUR INTERFACE