KINETROL

英国肯呐特标准限位开关盒

TYPE UNIVERSAL LIMIT SWITCH BOX

SUITABLE FOR DIRECT MOUNT TO KINETROL
ACTUATORS SIZE RANGE: 03 TO 14
& DISCRETE MOUNT OPTION
SWITCH TYPE: 004

1. Remove temporary threaded plugs.

2. Customer to supply and fit cable glands to maintain IP54 Environmental Protection. Second conduit entry can be plugged using a suitable IP66 plug or ordered from Kinetrol with plug already fitted.

3. Connect cable terminals as required (wiring diagram shown below).

4. Materials of construction:
   - Main body & lid - Zinc alloy (Mazak 3) diecast epoxy painted.
   - Gasket - Cork.
   - Terminal strip - Gemin (KRG).
   - Switch cables - PVC coated copper
   - Rubber seals - NBR. (Other mat'ls avliable on request)
   - Shaft - Zinc plated mild steel.
   - Switch body & plunger - Glass filled nylon 6.6.
   - Switch contacts - Fine silver

5. Operating conditions:
   - Minimum operating time: 20ms.
   - Maximum angle of travel: 110º
   - Vibrating conditions: 4G @ 100Hz
   - Ambient temperature range: -40ºC to +80ºC.
   - Ensure operating loads given opposite are not exceeded.

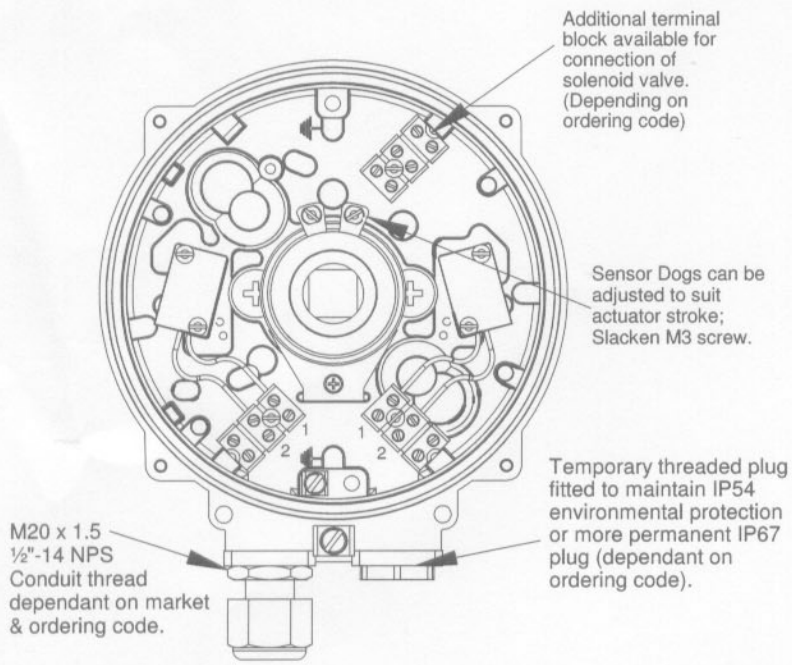
Resistive load ratings for standard microswitches:

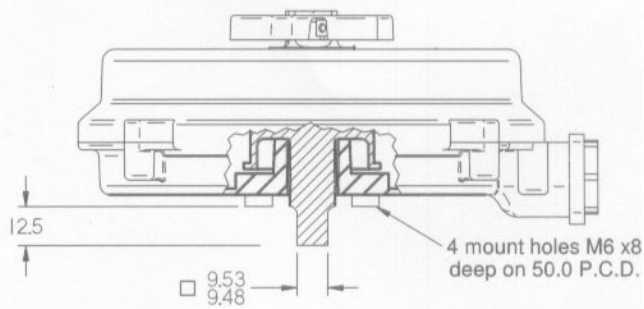
VOLTAGE	RESISTIVE LOAD
125 V ac	15 A
250 V ac	15 A
Up to 12 V dc	15 A
Up to 24 V dc	10 A
Up to 48 V dc	3 A
Up to 250 V dc	0.25 A

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

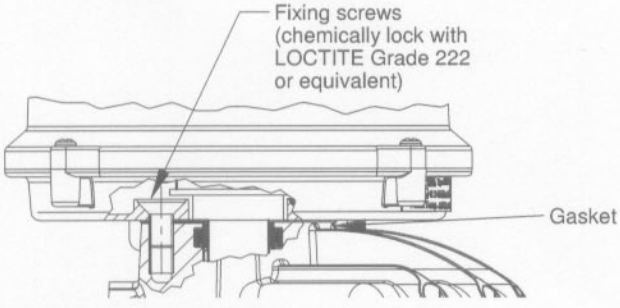
6. If direct mount units supplied separately this box must be kept sealed in its polythene bag during storage. The box must be assembled correctly to the appropriate Kinetrol actuator. The fixing screws and gasket are provided. Only use replacement parts supplied by Kinetrol. Assemble as shown below.

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 shaft. Ensure mounting arrangement does not apply side or end load to the switch box shaft.

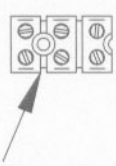




DISCRETE MOUNT BOX OPTION
SHOWN WITH KINETROL SQ.
IT CAN ALSO BE FITTED WITH
DISCRETE SHAFT TO VDI/VDE 3845.

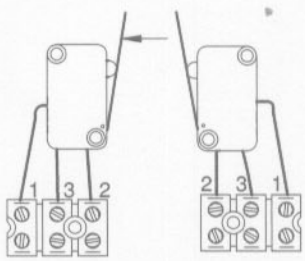


Kinetrol Direct Mount Option



TERMINAL FOR
CONNECTING TO
SOLENOID VALVE

CABLE RANGE
0.5mm² TO 2.5mm²



ENSURE EXTERNAL WIRING INSULATION
LIES WITHIN THROAT OF TERMINAL

WIRING DIAGRAM

KINETROL

英国肯呐特防爆限位开关盒

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

X LIMIT SWITCH B O X

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 minimium 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.

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	

6. Close mount units: Fixing screws supplied. Only use replacement parts supplied by Kinetrol. To mount on 03 actautor 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.

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, alternativity 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 torwards 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 permissable 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.

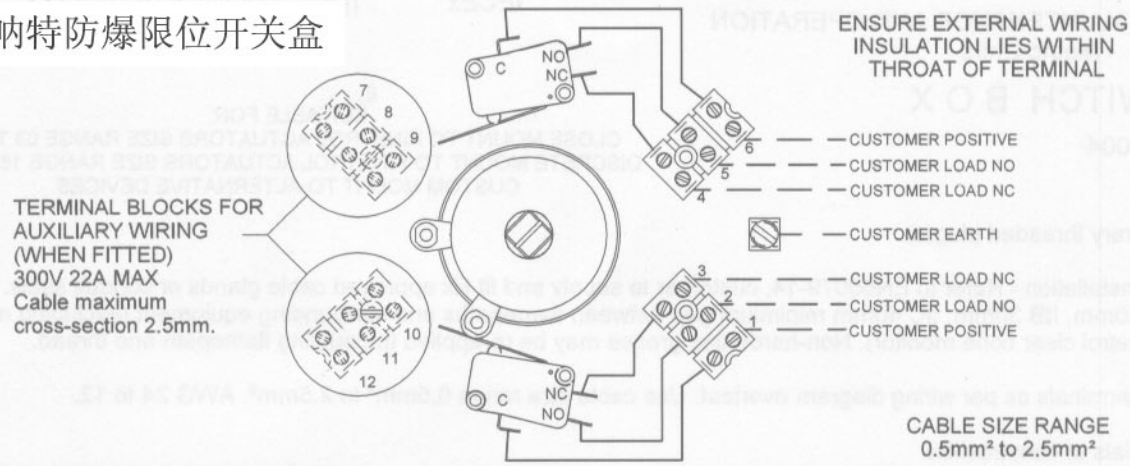
TO MAINTAIN PROTECTION ENSURE LID IS TIGHTLY CLOSED AND LOCKED BEFORE ENERGISING CIRCUITS

KINETROL

英国肯呐特防爆限位开关盒

X LIMIT SWITCH B O X

DIMENSIONS IN METRIC



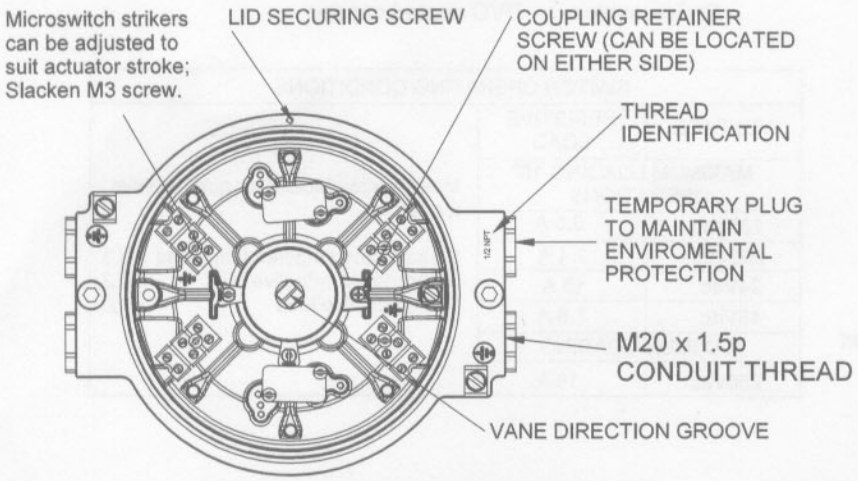


FIGURE 1 - BOX INTERNAL

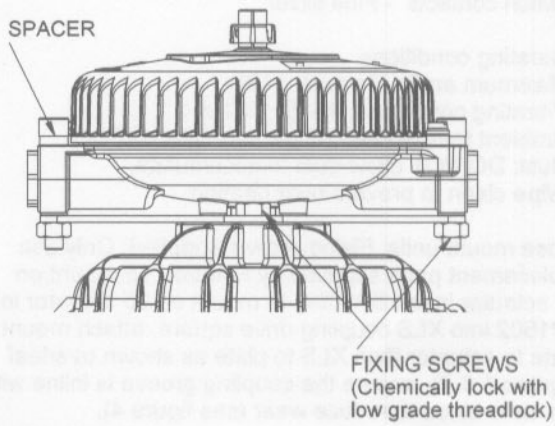


FIGURE 2 - CLOSE MOUNT SHOWN ON 07

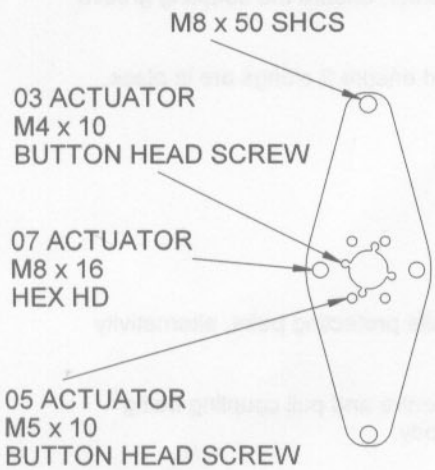


FIGURE 3 - CLOSE MOUNT PLATE

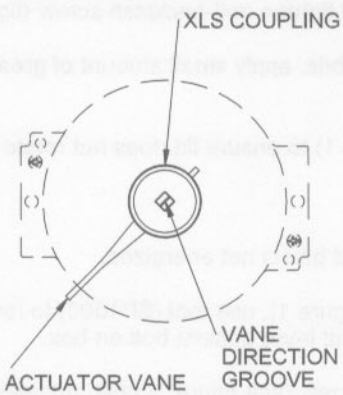


FIGURE 4 - VANE GROOVE

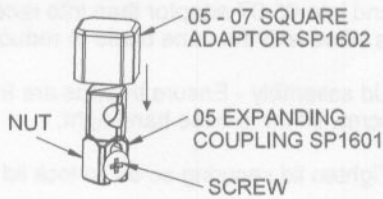


FIGURE 5 - KINETROL SQUARE INSERT

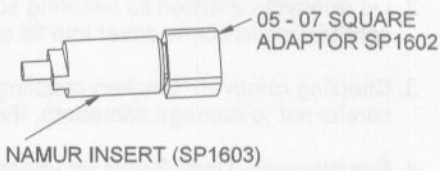


FIGURE 6 - NAMUR INSERT

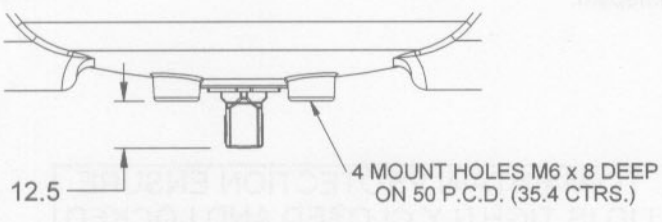


FIGURE 7 - DISCRETE MOUNT KINETROL SQUARE

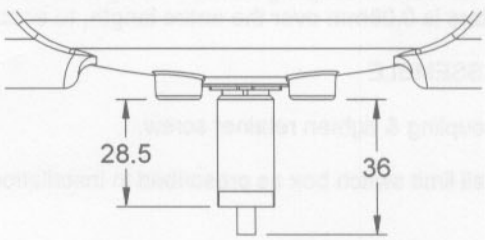


FIGURE 8 - DISCRETE MOUNT NAMUR INTERFACE