



## Installation and setting instructions

### Control Circuit Limit Switch Type VC50

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#### Important

These instructions must remain with the product to ensure correct installation. If extra copies are required please contact Dewhurst UK Manufacturing Ltd and quote publication number and issue

If you have any problems or questions, please contact our technical support desk direct on +44 (0)20 8744 8283/8227/8240 during office hours.

#### Dewhurst UK Manufacturing Ltd

Unit 9, Hampton Business Park - Feltham - TW13 6DB - UK  
Tel: +44 (0)20 8744 8200 Fax: +44 (0)20 8744 8299  
Email: info@dewhurst.co.uk www.dewhurst.co.uk

## APPLICATION

The VC50 Control Circuit Limit Switch is only suitable for controlling the travel of elevators/lifts and conveyors. It is supplied with one normally open and one normally closed switch.

## ENVIRONMENT

The VC50 is suitable for application in all normal indoor locations. Abnormal locations involving water spraying or splashing, chemical fumes and ignitable or explosive gases or dusts, require more detailed consideration, please consult Dewhurst plc at our Hounslow address.

## OPERATION

The double-break normally closed switch contact is positively broken and the electrically separate double-break normally open switch contact is closed by the movement of the actuating roller arm.

## MECHANICAL INSTALLATION

The VC50 is designed to be installed on a vertical flat surface, with the actuating roller extended clear of the hinged but removable cover. The complete unit may optionally be mounted upright, inverted or sideways, as illustrated, to permit the actuating rollers of two adjacent VC50 Limit Switches to be closer together.

There are two fixing slots for M5 screws permitting 25mm adjustment. A large flat washer must be fitted over each fixing slot. Two M20 threaded conduit entries are provided as shown on the drawing.

A mounting plate is available as a separate option with each VC50 limit switch to facilitate mounting on a Unistrut or similar preformed channel mounting bracket. The VC50 limit switch must first be secured to the mounting bracket using M5 screws and large flat washers before the mounting plate is clamped on the Unistrut channel using standard M6 Unistrut fixings as shown in the illustration.

A vertically moving skate is required to actuate the roller arm similar to that illustrated in the drawing. Set the vertical operating face of the skate 26mm at either hand horizontally from the vertical centre line projected through the switch actuating shaft. Set the centre of the actuating roller spindle for all mounting options 15° (27mm) from vertical at the same hand and datum as illustrated.

When the actuating roller rests on the vertical face of the skate a minimum of 6mm free horizontal overtravel must be available at the actuating roller spindle to ensure excessive force cannot be applied to the limit switch mechanism.

## ELECTRICAL CONNECTIONS

Ensure main and control power supplies are isolated.

The cover is opened by unscrewing the cover fixing screw and hinging the cover gently open to its natural stop. If necessary the cover can be released from the hinge by gently easing the retaining pivots away from their locators, when the cover is in the fully open position.

Bring the cables into the switch housing through one of the 20mm conduit entries using a locknut outside to secure the protective flexible conduit. Ensure there are no rough edges which can damage the cables. Crimp 0.25" (6.3mm) push-on terminal receptacles to each wire and fit them to the appropriate terminals on the contacts. If cables are to be looped at the terminal then piggy-back crimp receptacles will be necessary. However, due to restricted space looping within the switch should be avoided if possible. An earth cable and termination is not required.

Replace the cover and secure its fixing screw before reapplying the power supplies or making any mechanical adjustment.

Max. contact loading: 3A @ 230/240V a.c., 0.5A @ 240V d.c.

## ADJUSTMENTS

The illustrations show the recommended skate profile and location relative to the vertical centre line projected through all switch actuating shafts. Set the switch actuating arms at 15° (27mm) from the vertical centre line with the actuating roller spindle leaning towards the skate. Guide marks shown on the dark grey half cover are applicable to upright mounting arrangements only.

The 25mm long adjustment slots are for fine adjustment of the switch body. This adjustment is particularly useful to ensure that each switch actuating shaft is accurately on the vertical centre line through all switches, particularly on sideways mounting arrangements. It is important that all switch actuating arms are maintained at the correct orientation and dimensions relative to the skate profile.

Mounting screws, roller and actuating arm adjustment screws must be tightened to the maximum torque defined on the illustration.

### CAUTION

1. **SWITCH OFF** the mains supply before any installation, maintenance or repair work is carried out.
2. **DO NOT** work on live equipment unless it is essential to do so, in which case extreme care must be taken to avoid electrical shocks, including the use of rubber mats.
3. Installation, maintenance or repair must only be carried out by a competent person who is trained on this equipment.
4. Replace all covers on completion of work and ensure the unit is safe for installation and use.