TWM SERIES

HEAVY DUTY TRAILING WIRE FLOW SWITCHES

Billet aluminium housing for harsh mining applications



FEATURES

- Unique trailing wire sensor
- 5–500 VAC 15 A S.P.D.T. switch ('H' model)
- Low voltage gold contact 'L' model available
- High impact billet aluminium housing
- 316 stainless steel process connection
- 1" BSP or NPT threads
- Suitable for harsh mining applications
- 400 bar / 5800 psi pressure rated
- Manual override built in
- Seal-less magnetic drive
- Fully adjustable
- Easily serviceable

15 A
S.P.D.T. switch
rated 5–500 VAC

400 bar
5800 psi
pressure rated

–60 °C
Minimum liquid
temperature

IP67
Waterproof billet
aluminium housing

OUTLINE

The TWM trailing wire flow switch uses a flexible stainless wire sensor rather than a conventional paddle to sense flow. They are suitable for sensing flow in open discharge applications or in pipes of any diameter from 50 mm (2") upwards.

The flexible stainless wire sensor offers major advantages over conventional paddles in applications where solids or semi-solids are present, such as in sewage pumping. They are also suitable for use in slurry and mining applications and in many normal pumping situations where the flow velocity is high and conventional paddles are unsuitable.

The TWM trailing wire flow switch is supplied with a 1" 316 stainless steel process connection and is available with BSP or NPT threads. The switch housing is machined from solid billet aluminium.

A 500 V single pole double throw (S.P.D.T.) microswitch for general control circuit applications is supplied as standard with the TWM ('H' model). A low voltage gold contact switch ('L' model) is available for PLC and instrumentation circuits.

A unique feature of the TWM flow switch is its built-in manual override. Using the manual override allows the system to be manually started at any time by simply pressing the button. It also makes testing and commissioning of systems very simple.

ORDERING

Build your part number from the codes below – for example **TWM-H-25B-100**.

TWM – **H** – **25B** – **100**

SERIES

Trailing wire metal flow switch

SWITCH

H Standard heavy duty switch

L Low voltage gold switch

PROCESS CONNECTION

25B 1" BSP thread

25N 1" NPT thread

TRAILING WIRE LENGTH

Trailing wire length in millimetres

WIRE LENGTH Wire length refers to the distance from the tip of the wire to the bottom end face of the process connection. Available wire lengths: 50 mm, 80 mm, 100 mm, 140 mm, 160 mm, 180 mm, 200 mm, 250 mm and 300 mm.

OPERATING LIMITATIONS

PARAMETER	LIMITS
Maximum operating pressure (static or dynamic) at ambient temperature	**400 bar** 5800 psi
Minimum burst pressure at ambient temperature	**800 bar** 11600 psi
Maximum operating temperature (liquid)	**80 °C** 176 °F
Minimum operating temperature (liquid)	**–60 °C** –76 °F
Ingress protection rating (waterproof rating)	**IP67**

FLOW SENSITIVITY

The flow rate required to actuate the TWM will depend on many variables such as turbulence, liquid viscosity and the surface area of sensor wire exposed to the flow. The optimum wire length for a specific application can be obtained using the Paddle Trimming Calculator on our website.

Paddle Trimming Calculator ›

Not sure which wire length to use? Go to **www.kelco.com.au/en/tools/paddle-calculator** and use the calculator – enter your pipe inside diameter, flow rate and liquid to check the switch will operate reliably at your flow.

HAZARDOUS AREAS

The TWM-H is not certified for use in hazardous areas and must not be installed in any area classified as hazardous under AS/NZS 60079.10 (Zone 0, 1, 2, 20, 21 or 22).

The TWM-L is simple apparatus under AS/NZS 60079.11 and may be used in a hazardous area only as part of an intrinsically safe circuit, connected through suitably certified associated apparatus. It is not Ex certified in its own right. The associated apparatus must not exceed Uo ≤ 30 V, Io ≤ 100 mA. The full conditions of use are given in the installation sheet.

APPROVED STANDARDS

UL
UL1054 · File E41515

CSA
C22.2 No.55 · File LR21642

EN
EN61058-1

CE
Marked

Approvals apply to the 'H' and 'L' microswitches used in the TWM Series.

'H' SWITCH ELECTRICAL DATA

The 'TWM-H' models use an S.P.D.T. (single pole, double throw) microswitch for general control circuits up to 500 VAC – ideal for pump starters, relay logic, contactors and timers.

IMPORTANT

Use at any voltage from 5 to 500 VAC (minimum load 160 mA at 5 VDC). Directly switches pump motors up to ¼ HP (approx. 185 W) at 240 VAC – use a contactor or relay for larger motors.

RATED VOLTAGE	NON-INDUCTIVE LOADS (A)			INDUCTIVE LOADS (A)		
	RESISTIVE	LAMP		INDUCTIVE	MOTOR	
	NC / NO	NC	NO	NC / NO	NC	NO
125 VAC	15	3	1.5	15	5	2.5
250 VAC	15	2.5	1.25	15	3	1.5
500 VAC	10	1.5	0.75	6	1.5	0.75
8 VDC	15	3	1.5	15	5	2.5
14 VDC	15	3	1.5	10	5	2.5
30 VDC	6	3	1.5	5	5	2.5
125 VDC	0.5	0.5	0.5	0.05	0.05	0.05
250 VDC	0.25	0.25	0.25	0.03	0.03	0.03

Maximum switched voltage	**500 VAC**	Minimum switched voltage	**5 VDC**
Maximum switched current	**15 A (10 A at 500 VAC)**	Minimum switched current	**160 mA**

'L' SWITCH ELECTRICAL DATA

The 'TWM-L' models use an S.P.D.T. gold contact microswitch rated down to 1 mA at 5 VDC, so they switch reliably at the low wetting currents of PLC inputs, telemetry and relay logic.

PLEASE NOTE

Not suitable for inductive or capacitive loads (contactors, relays). Loads above the rating will damage the switch.

Switch type	**Gold contact microswitch**
Contact configuration	**S.P.D.T.**
Contact material	**Gold alloy**
Rated current (resistive)	**0.1 A at 125 VAC** **0.1 A at 8, 14 and 30 VDC**
Inrush current	**0.1 A maximum (NC and NO)**
Minimum applicable load	**1 mA at 5 VDC**
Operating range (micro load)	**5 to 30 V, 5 to 800 mW** **(26 mA maximum at 30 V)**
Contact resistance	**50 mΩ maximum (initial)**
Typical applications	**PLC, telemetry and low voltage control**

DIMENSIONS

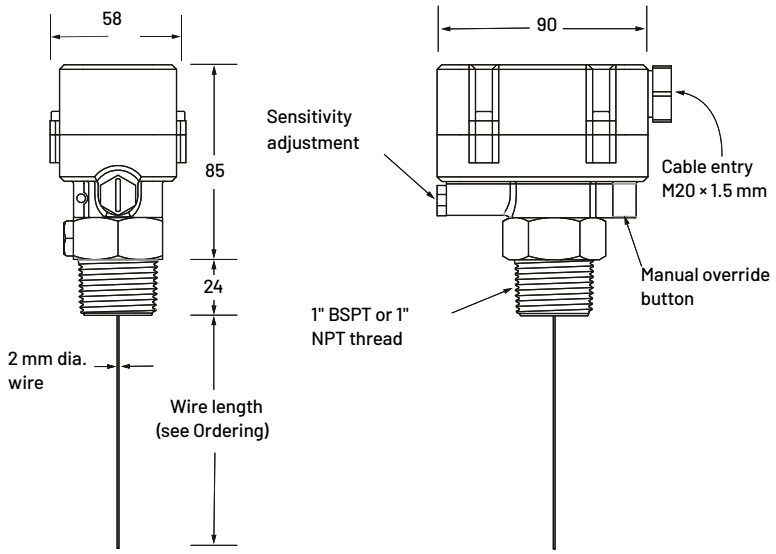


FIG. 1 Overall dimensions in millimetres

TYPICAL MOUNTING

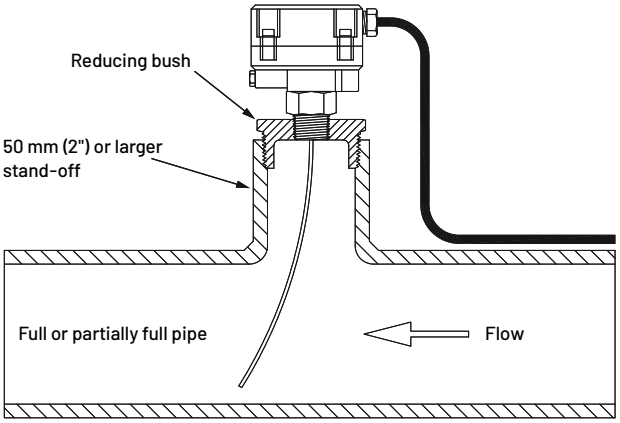


FIG. 2 Typical dead leg stand-off prevents solids reaching the switch body

SPARE PARTS

The TWM trailing wire flow switches are very simple to service, and most components are available as spare part kits.

Kelco Engineering Pty Ltd

ABN 20 002 834 844

HEAD OFFICE & FACTORY
9/9 Powells Road
Brookvale NSW 2100, Australia

POSTAL ADDRESS
PO Box 7485, Warringah Mall
Brookvale NSW 2100, Australia

SALES ENQUIRIES
sales@kelco.com.au
www.kelco.com.au

Please note: Kelco Engineering Pty Ltd reserves the right to change the specification of this product without notice. Information in this document is believed to be accurate at the date of publication. Always check www.kelco.com.au for the current version before specifying or installing. Users will use their own judgment to determine the appropriateness of using Kelco Products in an application, any safety measures required and that the product is properly installed for that application. To the extent permitted by law Kelco Engineering Pty Ltd disclaims and excludes all and any liability for the use of this product in any particular application or for defective installation. Kelco switches are warranted against malfunction by a 12 month return to base manufacturer's warranty. Full details of our warranty and limitation of liability can be downloaded from www.kelco.com.au/en/information/warranty.

All rights reserved. Copyright © 2026 Kelco Engineering Pty Ltd