

F28 SERIES VERSATILE QUAD TIMER FLOW SWITCH



GENERAL DESCRIPTION

The F28 quad timer flow switch is a protection and control device for pumps. It includes four integrated electronic timers that can be set to automatically start and stop a pump at predetermined intervals. For example, the F28 can be set to automatically pump water to a tank for a period of time, then stop and wait for a preset time and then repeat the process endlessly, all the while protecting the pump should it run out of water. If the pump does run out of water, the F28 will automatically shut it down and can be set to simply remain off until attended to, or to automatically restart and attempt to recover flow after waiting for a settable time.

POOL, SPA & TRANSFER PUMPS

Pool pumps, spa pumps and rural or industrial transfer pumps can be plugged directly into the F28 flow switch. The switch will not affect the operation of the pump unless it runs out of water. In this situation the controls can be set to simply stop the pump or to stop it then wait for a selectable time period and then to attempt to restart it. A choice of 256 combinations of run and stop times is available to choose from. As an example, the F28 can be set to pump water into a tank for 30 minutes, then stop, wait for up to 48 hours and then repeat the process. This feature is ideal for topping up tanks and for maintaining line pressure in stock and domestic watering systems.

APPLICATIONS

- LOSS OF FLOW PROTECTION FOR PUMPS
- CONTROL CONSTANT FLOW SYSTEMS
- MAINTAIN PRESSURE IN PIPEWORK
- CONTROL AUTOMATIC TANK FILLING SYSTEMS
- LOSS OF PRIME PROTECTION FOR BORE PUMPS
- AUTO CYCLIC PUMPING OF LOW YIELD BORES

FEATURES

- FOUR INTEGRATED TIMERS
- SIMPLE PLUG IN INSTALLATION
- NO METAL PARTS IN CONTACT WITH WATER
- CHOICE OF 256 RUN & STOP CYCLES
- SUITS ANY PIPE SIZE 25mm (1") OR LARGER
- DIRECTLY CONTROL MOTORS TO 3.75kW 5HP
- AUTOMATIC OVERRIDE ON START-UP
- AUTOMATICALLY IGNORES FLOW FLUCTUATIONS
- INDICATOR LIGHTS FOR ALL FUNCTIONS
- TOUGH RELIABLE PROVEN CONSTRUCTION
- 20 Bar (300 psi) PRESSURE RATING
- WEATHERPROOF HOUSING IP67

LOW YIELD BORE PUMPS

Low yield bores can be particularly difficult to control. Standing water level and recharge times can fluctuate dramatically due to environmental factors. Conductivity probes are routinely used to control submersible pumps in such systems and these can be problematic. An F28 flow switch can be installed in a serviceable location close to the bore head and set to pump the bore down either until it runs out of water or for a set time. The pump will then automatically shut down and wait until the standing water level recovers before automatically restarting and repeating the process. By using the F28's automatic start and stop functions low yield bores can be pumped to close to their maximum capacity without the risk of dry run damage to the pump.

INSTALLATION

The F28 flow switch can be installed in either the suction or discharge pipe of the pump. They can be installed in either vertical or horizontal pipework. Normally they are installed in a straight section of the pump's discharge pipe. A 1" BSP socket must be provided to fit the F28. The F28 flow switch is suitable for all types of pipework 25mm (1") diameter or larger.

CONSTRUCTION

The F28 flow switches have no metal parts in contact with liquids. They operate through a seal-less magnetic coupling system and are ideally suited to use in aggressive or saline ground water, seawater or chlorinated water. All F28 flow switches use our well proven magnetic suspension system to give a frictionless spring return action to the paddle and total isolation of the electronic module. The electronics built into the F28 are both brown out and voltage surge protected.



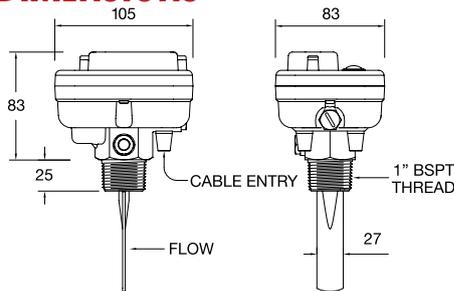
AUSTRALIAN MADE

TECHNICAL DATA

PROTECTION FOR PRESSURE SYSTEMS

If a normal pressure system controlled by a pressure switch is run dry, severe damage to the pump and its seal may result. An F28 connected between the pressure switch and the pump motor will protect the pump from dry run damage by shutting it down in spite of the pressure switch trying to keep it running. For rural and industrial applications a pressure switch can be used to start a pump on a pressure drop for example when a float valve in a tank opens. Once started, the F28's run timer can be used to set how long the pump runs for. As an example, it can be used to maintain line pressure in duel pump pressure jacking applications and in low draw-off systems where low-pressure differentials make the use of pressure switches difficult or impossible.

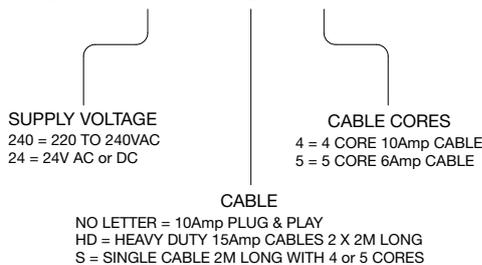
DIMENSIONS



ORDERING

The F28 Quad Timer Flow Switch is available in a number of configurations to suit specific applications. For the direct control of pumps up to 2.4kW (3HP) it can be supplied as 'Plug & Play' with 10Amp leads and fitted with a plug and socket. For fixed installations up to 3.75kW (5HP) single phase, it can be supplied in a heavy duty form fitted with 2 metre long 15A cables, or fitted with a single 2 metre long cable that has either 4 or 5 cores, for either direct control of pump motors, (4 core version), or with 5 core cable, for use in single and 3-phase control circuit applications. In addition there is a universal low voltage AC/DC model available. The part numbering below sets out how to order a specific configuration.

F28 - 240 - S - 5



Please Note: The universal 24V AC/DC model is only available in F28-24-S-5 configuration, that is, with a single 5-core cable for control circuit applications only.

WARRANTY

The Kelco F28 Quad Timer Flow Switch is protected by a 12 months return to base warranty. Full details of our warranty can be downloaded from: - <http://www.kelco.com.au/menu/information/warranty-statement/>

OPERATING ENVIRONMENT

| | |
|---------------------------------------|--------------------------------------|
| Supply F28-240 (Standard & HD Models) | 220 to 250VAC 50Hz |
| Supply F28-24-S-5 (24V AC/DC Model) | 12 to 28 Volts AC or DC at 80mA Max. |
| Ambient Temperature Range | 1°C to 50°C |
| Liquid Temperature Range | 1°C to 60°C See note below |
| Ingress Protection Rating | IP67 |

OPERATING RANGE

| | |
|--|--|
| Start-up Timer | Adjustable from 1sec. to 3 minutes in 15 steps |
| Run-on Timer | Adjustable from 1 sec. to 5 minutes in 15 step |
| Restart Timer | Adjustable from 1 min. to 48 hours in 15 steps |
| Stop Timer | Adjustable from 1 min. to 48 hours in 15 steps |
| Recommended Pipe Sizes | 25mm (1") or larger (There is no upper limit) |
| Maximum Switched Load Standard F28-240 | 250VAC 50Hz 2.4kW (Pump motors up to 3HP) |
| Maximum Switched Load F28-240-HD Only | 250VAC 50Hz 3.75kW Motors up to 5HP |
| Maximum Switched Load F28-240-S-4 | 250VAC 50Hz 2.4kW Motors up to 3HP |
| Maximum Switched Load F28-240-S-5 | 250VAC 50Hz 6Amps. For control circuit applications only |
| Maximum Switched Load F28-24-S-5 | 250VAC 50Hz 6Amps. For control circuit applications only |
| Operating Pressure Range | -1 Bar to 20 Bars (-14psi to 300psi) See Note Below |
| Minimum Burst Pressure | 50 Bars (720 psi) |

NOTE: The F28 should only be used in cold (ambient temperature) water applications. It is not designed for use with liquids other than cold water. In the interest of safety the F28 flow switch must NOT be used in hot water applications (>60°C).

The F28 is designed to withstand water pressures to 20 Bars (300 psi) and must not be used in applications where either the static or dynamic pressure exceeds this rating.

The F28 flow switch requires a stable 220 to 240V AC 50Hz supply in order to operate properly. Where large pumps are connected to an F28 care should be taken to ensure cable sizes are adequate. Never use the F28 with long or coiled extension leads or on generator sets. The electronics in the F28 are protected against surges and brownout and these protection systems can be triggered by voltage spikes or by an erratic electrical supply.

The F28 is designed to withstand water pressures to 20 Bars, (300psi), and must not be used in applications where either the static or dynamic pressure exceeds this rating.

SPARE PARTS

Spare Paddles are available for the F28 Quad Timer Flow Switch.

STANDARDS

The F28 Quad Timer Flow Switch is certified to Australian Standards: - AS60529-2004 AS61010.1: 2003 AS/NZS CISPR 14.1:2003

MADE IN AUSTRALIA BY

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PLEASE NOTE: The Kelco F28 Quad Timer Flow Switch is the subject of Australian and International patent and trademark applications.

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