

The Kenrahn Turf Watering Starter is suitable for irrigation and lawn watering projects using a solenoid valve controller to automatically water sections in sequence and send a pump start signal to the TWS (Turf Watering Starter).

The standard TWS is housed in a powder coated weather proof metal enclosure and is available in many standard and special combinations to suit most applications. Economy versions are also available in plastic enclosures.

**General information**

The standard unit, housed in a powder coated weather proof metal enclosure with all control switches and indicators behind a lockable door, incorporates a motor starter for the pump, loss of pressure protection to safeguard against broken pipes and preventing the pump from running dry & a 24 Volt ac Pump Start Relay.

When a 24 Volt start signal is received from the turf controller, the pump will start and continue to run until the pump start signal is removed.

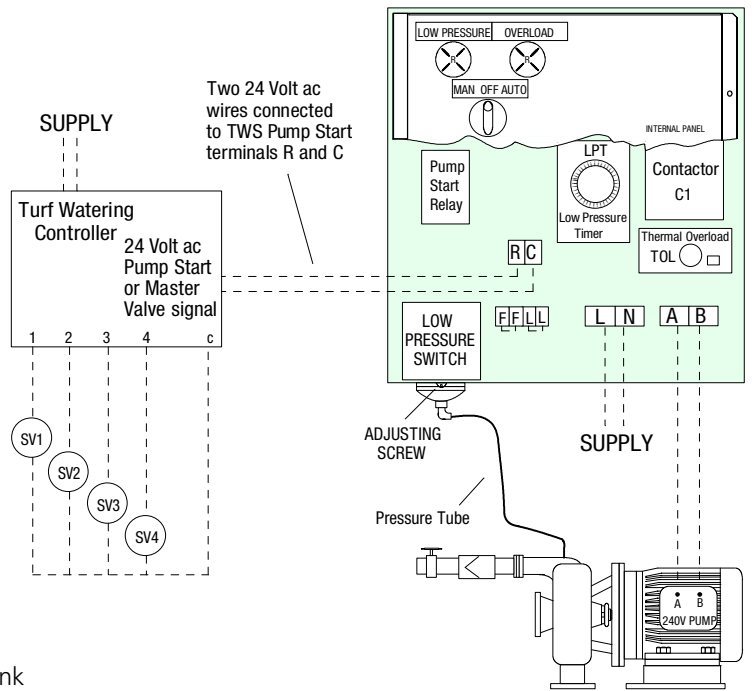
If the inbuilt pressure switch detects a low pressure condition for the period of time set on the internal low pressure timer, the pump will stop and not restart until reset or the next pump start signal is received.

The Standard TWS can have many options:-

- ◆ Ammeter.
- ◆ Hours Run meter.
- ◆ Rain switch circuit.
- ◆ Flow switch circuit with time delay.
- ◆ Thermistor overtemperature protection.
- ◆ Probe relay to suit bore probes if pumping from a bore.
- ◆ Low level relay to suit level switches if pumping from tank
- ◆ High pressure switch and time delay for high pressure protection.
- ◆ Jacking pump circuit breaker and control circuit for small demands.
- ◆ 28 Hour timer in the manual position to operate like an irrigation starter.
- ◆ Inbuilt controller for the solenoids pre wired internally to ease installation.
- ◆ Transformer for 24 Volt ac supply to solenoids.

Various starting methods, like Direct on Line, Star Delta, Soft starter, Auto transformer or Variable speed drive can be supplied for small or large kilowatt motors in standard models.

**TWS-2D Standard**



The standard 240 Volt DOL model shown has a Manual-Off-Auto, indicators for low pressure and overload, inbuilt low pressure switch with time delay and a 24 Volt ac pump start relay.

**STANDARD VERSION**

MODEL	VOLTS	TYPE	REMARKS
TWS-2D	240V	Direct On Line	Standard model as shown with Manual-Off-Auto, indicators for low pressure and overload, inbuilt low pressure switch and a 24 Volt ac pump start relay. housed in a powder coated steel enclosure.
TWS-6D	415V	Direct On Line	
TWS-SD	415V	Star Delta	
TWS-AT	415V	Auto Transformer	
TWS-SS	415V	Soft Starter	
TWS-LL-2D	240V	Direct On Line	Standard model as above with low level relay for stopping on level fall and automatically restarting if the level is restored to a higher level.
TWS-LL-6D	415V	Direct On Line	
TWS-LL-SD	415V	Star Delta	
TWS-LL-AT	415V	Auto Transformer	
TWS-LL-SS	415V	Soft Starter	
TWS-HP-2D	240V	Direct On Line	Standard model with High Pressure protection. If the inbuilt pressure switch detects a high pressure for the period of time set on the high pressure timer the pump will lock out.
TWS-HP-6D	415V	Direct On Line	
TWS-HP-SD	415V	Star Delta	
TWS-HP-AT	415V	Auto Transformer	
TWS-HP-SS	415V	Soft Starter	

"REFER TO THE PRICE LIST FOR VARIOUS MOTOR SIZES AND TYPES TO SUIT PARTICULAR KILOWATT AND AMPS."

**ECONOMY VERSION**

Economy versions are housed in plastic enclosures to suit external pressure switches. Not all options are available on the economy models, please see the price list or check with Kenrahn before ordering.

Care must be taken when selecting a mounting position for the economy models with options, as the controls and indicators are on the outside of the enclosure and may not be suitable if exposed to the weather.

MODEL	VOLTS	TYPE	REMARKS
TWS-2DE	240V	Direct On Line	DOL starter with Manual-Off-Auto selector and a 24 Volt ac pump start relay housed in a plastic enclosure.
TWS-6DE	415V	Direct On Line	
TWS-LP-2DE	240V	Direct On Line	Same as basic economy model with low pressure circuit and time delay with indicator to suit external pressure switch.
TWS-LP-6DE	415V	Direct On Line	
TWS-NF-2DE	240V	Direct On Line	Same as basic economy model with No Flow circuit and time delay with indicator to suit external flow switch.
TWS-NF-6DE	415V	Direct On Line	