



Pump Control Equipment

Kenrahan Controls

Kelco Controls

Hydrovar Controls

Constant Pressure Controls

Pressures Switches / Transducers





CONSTANT PRESSURE SYSTEMS

CPS Constant Pressure Systems - Above Ground Pumps

Code: CP

Kenrahan Constant Pressure Starters control the pressure in pumping systems via an easily adjustable potentiometer setpoint fed in the VSD. The standard CPS is housed in a powder coated metal lockable enclosure for ease of installation and are available in many standard or special combinations to suit most applications.

General information

The standard model illustrated here is the most common with a Variable speed drive pre set to a desired pressure set point via the simple potentiometer mounted on the internal door.

The control panels come standard with high and low pressure protection with time delays..

The desired setpoint and actual feedback pressure is displayed on the digital drive display..

At the end of the irrigation run or application duty the pump will slow down to the preset stop value and shut down.

The standard model has an adjustable set point potentiometer and Manual Off Auto selector switch

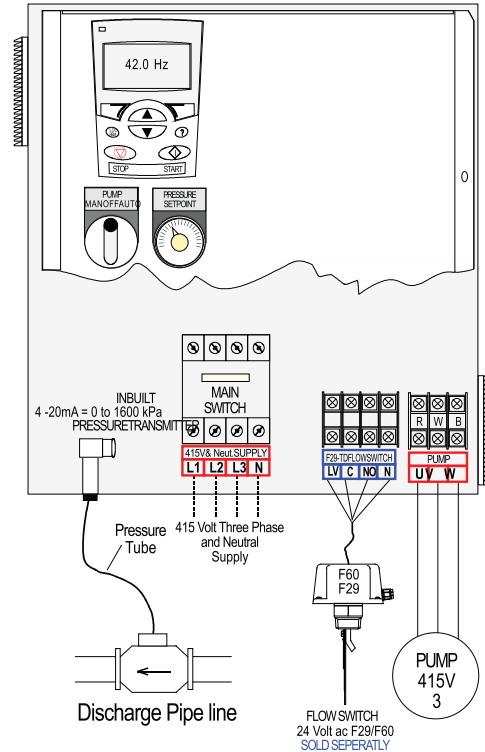
With this method the pre set irrigation run will be completed regardless of the number of times the power is interrupted during non irrigation periods

Mount the starter, connect the supply, connect the pressure tube to the discharge line and connect the pump motor.

Many additional features can be added to achieve a system to suit particular installations. For example:

- ◆ Radio control via SMS
- ◆ High Pressure protection with time delay
- ◆ Low Pressure protection with time delay
- ◆ Start delay to prevent starting in poor power conditions
- ◆ No flow circuit with time delay
- ◆ 24V Pump start relay form irrigation controller
- ◆ Thermistor over temperature protection
- ◆ Low Level Protection and relay
- ◆ Low Bore Level Protection and relay
- ◆ PT100 Temperature protection for Submersible motors

CPS-6D-VSD



Standard Models 415V 3 Phase CPS standard

MODEL	kW	Volts	Amps	REMARKS
CPS-6D-2.6	0.75	415	2.6 FLA	Constant pressure starter with an adjustable set point via a potentiometer. VSD housed in lockable steel dead front ventilated powder coated enclosure. Man-Off-Auto selector, PID in Auto full speed in Manual 240v external control terminal.
CPS-6D-3.6	1.1	415	3.6 FLA	
CPS-6D-4.5	1.5	415	4.5 FLA	
CPS-6D-6.2	2.2	415	6.2 FLA	
CPS-6D-7.8	3.0	415	8.0 FLA	
CPS-6D-9.5	4.0	415	9.7 FLA	
CPS-6D-13	5.5	415	13.8 FLA	
CPS-6D-17	7.5	415	17.2 FLA	
CPS-6D-25	11	415	25.4 FLA	
CPS-6D-34	15	415	34.1 FLA	
CPS-6D-42	18.5	415	41.8 FLA	
CPS-6D-48	22	415	48.4 FLA	
CPS-6D-59	30	415	59.0 FLA	
CPS-6D-72	37	415	72.0 FLA	
CPS-6D-87	45	415	87.0 FLA	
CPS-6D-125	55	415	125 FLA	

Options

CODE	OPTION
LLR	Stop on level fall, resart on level rise for suction tank.
BLC	Low level probe circuit to stop on level fall in the Bore.
RP	Resart on level rise in the bore, for low yield bores
DTC	Start on time, stop on time on particular days with reserve.
SUR	20kA Lightning protection.
TX	415/240V Control transformer for sites with no Neutral.
OTR	PT100 Overtemperature protection.
MTC	30 Hour count down timer
SDT	Start delay timer (Standard, 37 kW & above)



CONSTANT PRESSURE SYSTEMS

CPS Constant Pressure Systems - Submersible Pumps

Kenrahan Constant Pressure Starters control the pressure in pumping systems via an easily adjustable potentiometer setpoint fed in the VSD. The standard CPS is housed in a powder coated metal lockable enclosure for ease of installation and are available in many standard or special combinations to suit most applications.

General information

The standard model illustrated here is the most common with a Variable speed drive pre set to a desired pressure set point via the simple potentiometer mounted on the internal door.

The control panels come standard with high and low pressure protection with time delays..

The desired setpoint and actual feedback pressure is displayed on the digital drive display..

At the end of the irrigation run or application duty the pump will slow down to the preset stop value and shut down.

The standard model has an adjustable set point potentiometer and Manual Off Auto selector switch

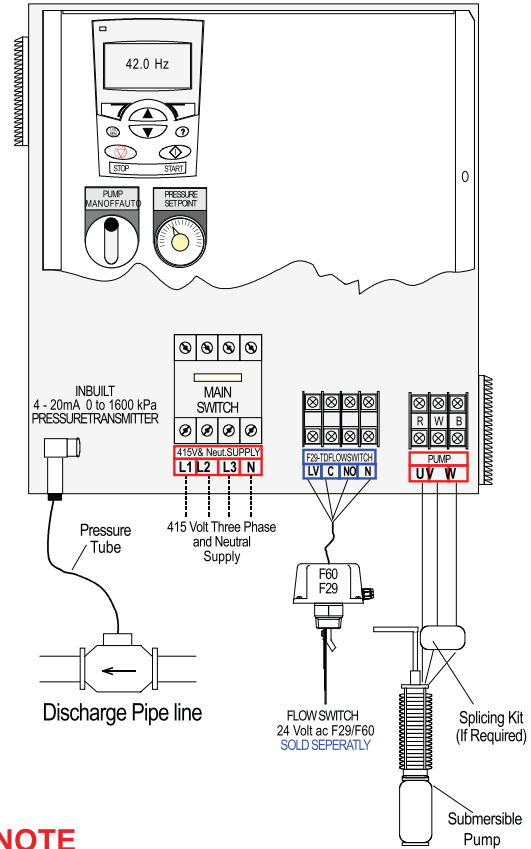
With this method the pre set irrigation run will be completed regardless of the number of times the power is interrupted during non irrigation periods

Mount the starter, connect the supply, connect the pressure tube to the discharge line and connect the pump motor.

Many additional features can be added to achieve a system to suit particular installations. For example:

- ◆ Radio control via SMS
- ◆ High Pressure protection with time delay
- ◆ Low Pressure protection with time delay
- ◆ Start delay to prevent starting in poor power conditions
- ◆ No flow circuit with time delay
- ◆ 24V Pump start relay form irrigation controller
- ◆ Thermistor over temperature protection
- ◆ Low Level Protection and relay
- ◆ Low Bore Level Protection and relay
- ◆ PT100 Temperature protection for Submersible motors

CPS-6D-VSD



NOTE

For Submersible motors a Sinus Filter is supplied in a separate enclosure .

Standard Models 415V 3 Phase			CPS standard		REMARKS
MODEL	kW	Volts	Amps		
CPS-6D-2.6	0.75	415	2.6 FLA		Constant pressure starter with an adjustable set point via a potentiometer. VSD housed in lockable steel dead front ventilated powder coated enclosure.
CPS-6D-3.6	1.1	415	3.6 FLA		
CPS-6D-4.5	1.5	415	4.5 FLA		
CPS-6D-6.2	2.2	415	6.2 FLA		
CPS-6D-7.8	3.0	415	8.0 FLA		
CPS-6D-9.5	4.0	415	9.7 FLA		
CPS-6D-13	5.5	415	13.8 FLA		
CPS-6D-17	7.5	415	17.2 FLA		
CPS-6D-25	11	415	25.4 FLA		
CPS-6D-34	15	415	34.1 FLA		
CPS-6D-42	18.5	415	41.8 FLA		
CPS-6D-48	22	415	48.4 FLA		
CPS-6D-59	30	415	59.0 FLA		
CPS-6D-72	37	415	72.0 FLA		
CPS-6D-87	45	415	87.0 FLA		
CPS-6D-125	55	415	125 FLA		

Options	
CODE	OPTION
LLR	Stop on level fall, restart on level rise for suction tank.
BLC	Low level probe circuit to stop on level fall in the Bore.
RP	Restart on level rise in the bore, for low yield bores
DTC	Start on time, stop on time on particular days with reserve.
SUR	20kA Lightning protection.
TX	415/240V Control transformer for sites with no Neutral.
OTR	PT100 Overttemperature protection.
MTC	30 Hour count down timer
SDT	Start delay timer (Standard, 37 kW & above)
BLC	Probe relay suit 1 or 2 probes

NOTE

For Submersible motors a Sinus Filter is supplied in a separate enclosure.



KENRAHAN IRRIGATION STARTERS

FPS-FIS Kenrahan Irrigation Starter

Kenrahan Irrigation Starters have been developed for the rural area and are robust and rated to suit harsh conditions. They are completely weatherproof and pre-wired to save installation time. The standard model has a 30 hour irrigation timer and loss of pressure protection which makes it suitable for most applications including Travelling Irrigators, Side Roll, Drip, Fixed Irrigation etc.

General information

The standard model has a manual set 30 hour timer for the irrigation run and loss of pressure protection. Simply turn the irrigation timer to the desired operating time and press the start button.

At the end of the pre-set time or if the pressure falls during the irrigation time the pump will stop, and not restart until the start button is pushed. The remaining pumping time is displayed on the Irrigation Timer.

The standard unit is fitted with a timer which will automatically by-pass the pressure switch during starting and can be wired to enable auto restarting after power interruptions.

With this method the irrigation run will be completed regardless of the number of times the power is interrupted during non irrigation periods.

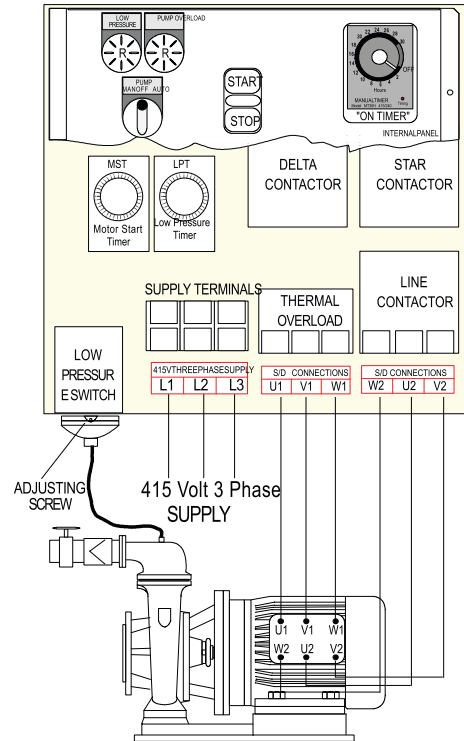
The Standard IS can have many options:-

- ◆ Ammeter.
- ◆ Flow switch circuit.
- ◆ Flow switch circuit with time delay.
- ◆ Thermistor overtemperature protection.
- ◆ Low level relay to suit level switches if pumping from tank
- ◆ High pressure switch circuit.
- ◆ High pressure switch and time delay for high pressure protection.
- ◆ 24 Hour timer to start and stop daily at pre set times.
- ◆ Transformer for 24 Volt ac control circuits.

See full list of options on page 40 of the price list.

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.

IS-22SD



Star Delta Irrigation Starter with 30 hour manual set, auto stop irrigation timer and loss of pressure protection.

IS Star / Delta Starter Suggested Standard

MODEL	k W	Overload	REMARKS
IS-8SD	7.5	9 - 13	Standard model as shown with Manual-Off-Auto selector, indicators for low pressure and overload, inbuilt low pressure switch & an 30 hr. Irrigation timer housed in a powder coated enclosure.
IS-11SD	11	12 - 18	
IS-15SD	15	12 - 18	
IS-19SD	18.5	18 - 26	
IS-22SD	22	18 - 26	
IS-30SD	30	24 - 34	A model with start/stop buttons as in basic Star/Delta models can be supplied if auto restart is not desirable.
IS-37SD	37	34 - 50	
IS-45SD	45	34 - 50	An Ammeter or Hours Run Meter are recommended features which can be easily added to the standard product range.
IS-55SD	55	43 - 65	
IS-75SD	75	54 - 80	
IS-90SD	90	100 -150	
IS-110SD	110	100 -150	

Options

CODE	OPTION
ACT	Ammeter CT operated
HRM	Hours Run Meter
NFD	No Flow circuit with time delay
BLC	Probe relay suit 1 or 2 probes
TCU	Thermistor overtemperature relay
LLR	Low Level protection circuit with relay
TX	24 Volt Extra Low Voltage control
DTC	Digital time control in lieu of standard
MTC	30 Hour count down timer
SDT	Start delay timer (Standard, 37 kW & above)
HPTD	High pressure protection with time delay
LPTD	Low pressure protection with time delay
PFR	Phase failure relay and time delay
SMS	SMS Text Start/Stop and fault indication via SMS



KENRAHAN IRRIGATION SOFT STARTERS

FPS-FIS Kenrahan Irrigation Soft Starter

Kenrahan Irrigation Soft Starters have been developed for the rural area and are robust and rated to suit harsh conditions. They are completely weatherproof and pre-wired to save installation time. The standard model has a 30 hour irrigation timer and loss of pressure protection which makes it suitable for most applications including Travelling Irrigators, Side Roll, Drip, Fixed Irrigation etc.

General information IS-30SS

The standard model illustrated here is the most common with a soft starter, 30 Hour manual set auto stop irrigation timer, loss of pressure protection and auto restart after power fail.

Simply turn the 30 hour irrigation timer to the desired operating time and turn the Manual Off Auto selector to the Auto position.

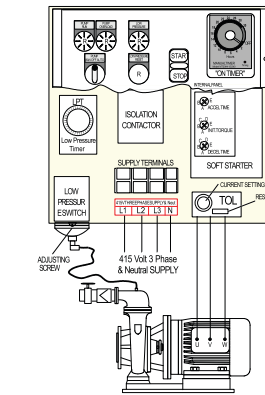
At the end of the pre-set time, or if the pressure falls during the irrigation time the pump will stop, and not restart until manually reset.

The standard model has an adjustable time delay during starting which will automatically by-pass the pressure switch to enable auto restarting in controlled load areas to restart the pump after power interruptions. With this method the pre set irrigation run will be completed regardless of the number of times the power is interrupted during non irrigation periods

If auto restart is not desirable and the operator wants to be at the pump every time it is started then a model can be supplied with push buttons as in the basic Star Delta base models.

The soft starter has an inbuilt by-pass contactor to prevent overheating and for safety the circuit has an isolation contactor.

Mount the starter, connect the supply, connect the pressure tube to the discharge line and connect the pump motor.



Many additional features can be added to achieve a system to suit particular installations. For example:

- ◆ Radio control
- ◆ High wind shutdown
- ◆ High Pressure protection with time delay
- ◆ Start delay to prevent starting in poor power conditions
- ◆ Ammeter with CT
- ◆ Hours Run Meter
- ◆ Council CT metering section
- ◆ No flow circuit with time delay
- ◆ Low vacuum switch with time delay
- ◆ Thermistor over temperature protection
- ◆ Low Level Protection and relay

30 Kw Soft Starter Irrigation Starter with 30 hour manual set, auto stop irrigation timer and loss of pressure protection with by-pass timer. Set 30 Hour timer to the operating time and turn selector switch to Auto. The soft starter will limit the inrush current to ensure a smooth start.

IS Soft Starter Suggested Standard

MODEL	kW	Overload	REMARKS
IS-8SS	7.5	12 - 18	The standard IS-SS(Irrigation Soft Starter) incorporates an adequately sized Soft Start motor starter, By-pass contactor, Thermal overload protection, low pressure shutdown and timer, 30 hour manual set/auto stop irrigation timer and Manual-Off-Auto selector.
IS-11SS	11	16 - 22	
IS-15SS	15		
IS-19SS	18.5	32 - 40	
IS-22SS	22	34 - 50	
IS-30SS	30	43 - 65	
IS-37SS	37	54 - 80	The soft starter can control the starting current and be adjusted between 300 to 600% times the FLC
IS-45SS	45	65 - 100	A model with start/stop buttons as in basic Star/Delta models can be supplied if auto restart is not desirable.
IS-55SS	55	65 - 100	
IS-75SS	75	100 -150	An Ammeter or Hours Run Meter are recommended features which can be easily added to the standard product range.
IS-90SS	90	140 -220	
IS-110SS	110	140-220	

Options

CODE	OPTION
ACT	Ammeter CT operated
HRM	Hours Run Meter
NFD	No Flow circuit with time delay
BLC	Probe relay suit 1 or 2 probes
TCU	Thermistor overtemperature relay
LLR	Low Level protection circuit with relay
TX	24 Volt Extra Low Voltage control
DTC	Digital time control in lieu of standard
MTC	30 Hour count down timer
SDT	Start delay timer (Standard, 37 kW & above)
HPTD	High pressure protection with time delay
LPTD	Low pressure protection with time delay
PFR	Phase failure relay and time delay
SMS	SMS Text Start/Stop and fault indication via SMS



KENRAHAN IRRIGATION SOFT STARTERS

FPS-PS-SS Franklin Soft Starters

Kenrahan Soft Starters have been developed for the rural area and are robust and rated to suit harsh conditions. They are completely weatherproof and pre-wired to save installation time. The standard model has a No flow timer for no flow protection and a remote start input that can be used for a level switch or telemetry start/stop.

General information

The standard model illustrated here is the most common with a soft starter with No Flow protection and auto restart after power fail.

The standard model has an adjustable time delay during starting which will automatically by-pass the flow switch to enable auto restarting in controlled load areas to restart the pump after power interruptions.

If auto restart is not desirable and the operator wants to be at the pump every time it is started then a model can be supplied with push buttons as in the base models.

The soft starter has an inbuilt by-pass contactor to prevent overheating and for safety the circuit has an isolation contactor.

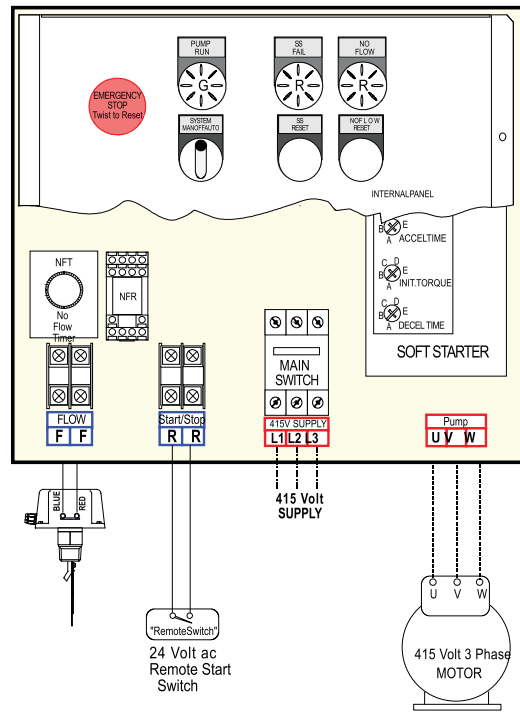
Mount the starter, connect the supply, connect the flow switch to the 24V ac terminals and connect the pump motor.

The soft starter has a remote start/stop input terminal if the pump is to be started via remote telemetry or a external control device is required.

Many additional features can be added to achieve a system to suit particular installations. For example:

- ◆ Radio control or SMS
- ◆ High Pressure protection with time delay
- ◆ Start delay to prevent starting in poor power conditions
- ◆ Ammeter with CT
- ◆ Hours Run Meter
- ◆ No flow circuit with time delay
- ◆ Low vacuum switch with time delay
- ◆ Thermistor over temperature protection
- ◆ Low Level Protection and relay

FPS-30SS



Soft Starter (SS) starter with thermal overload protection housed in dead front weather proof enclosure.

Man-Off-Auto selector and Overload /Run indicators.

Standard with no flow protection with inbuilt by pass timer

CP Soft Starter Suggested Standard

MODEL	kW	Max Amps	REMARKS
FPS-8SS	7.5	18	The standard CP-SS incorporates an adequately sized Soft Start motor starter, By-pass contactor, Thermal overload protection, No Flow shutdown and a Manual-Off-Auto selector.
FPS-11SS	11	22	
FPS-15SS	15	34	
FPS-19SS	18.5	38	
FPS-22SS	22	45	
FPS-30SS	30	64	
FPS-37SS	37	75	
FPS-45SS	45	85	
FPS-55SS	55	125	
FPS-75SS	75	140	An Ammeter or Hours Run Meter are recommended features which can be easily added to the standard product range.
FPS-90SS	90	210	
FPS-110SS	110	240	

Options

CODE	OPTION
ACT	Ammeter CT operated
HRM	Hours Run Meter
NFD	No Flow circuit with time delay
BLC	Probe relay suit 1 or 2 probes
TCU	Thermistor overtemperature relay
LLR	Low Level protection circuit with relay
TX	24 Volt Extra Low Voltage control
DTC	Digital time control in lieu of standard
MTC	30 Hour count down timer
SDT	Start delay timer (Standard, 37 kW & above)
HPTD	High pressure protection with time delay
LPTD	Low pressure protection with time delay
PFR	Phase failure relay and time delay
SMS	SMS Text Start/Stop and fault indication via SMS



KENRAHAN PIVOT STARTERS

FPS-PS-SS Centre Pivot Starters

Code: CP

The Centre Pivot Starter has been developed over many years to be compatible with many styles of centre pivot or lateral move irrigators. They are completely weatherproof and pre-wired to save installation time. The standard model has a 24 Volt ac extra low voltage circuit to link the pivot to the pump. If the pivot gets out of line or stops, the pump will stop. If the pump stops, the pivot will stop.

General information

CPS-30SS58

The base model illustrated here is the most common with a soft starter and 24 Volt ac pivot link circuit. However Auto Transformer, Star Delta and Variable Speed are options.

The extra low voltage circuit can be more complicated, with auto pivot start, or start & stop the system from either position.

However the most common is a two wire system between the pump starter and the pivot. Usually this provides the pump to be started from the pump starter panel and allows an adjustable time period for the pivot to start and signal back it is "OK" to keep operating.

If the pivot has auto start via pressure rise, the system can be started from the pump without the need to go to the pivot site. Also the pump could be started by starting the pivot first and sending the pivot "OK" signal to the pump.

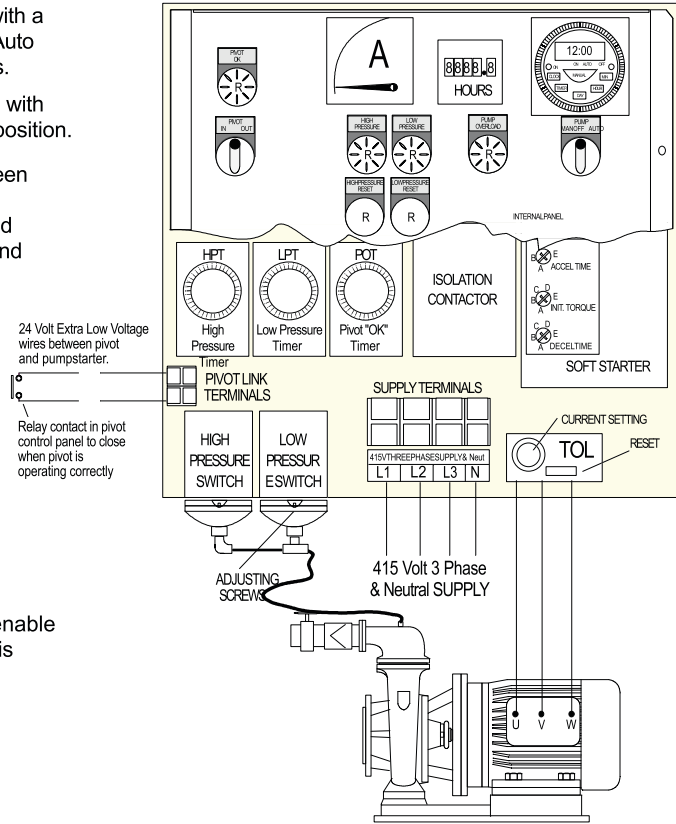
If the pivot does not have auto start, a signal is sent from the pump starter to the pivot for auto start or to open a solenoid controlled valve.

The system will also accept signals from diesel driven pivots or generator supplies.

The standard starter also has a pivot IN/OUT switch to enable the pump to be used with or without the pivot link. This allows the pump to be used with other style irrigators

Many additional features can added to achieve a system to suit particular installations. For example:

- ◆ Radio control
- ◆ High wind shutdown
- ◆ Pivot 1/Pivot 2 selector switch
- ◆ Circuit breaker for pivot supply to originate from pump panel
- ◆ Circuit breaker for shed lighting supply
- ◆ Circuit breaker for shed power supply
- ◆ Main Isolator
- ◆ No flow circuit with time delay
- ◆ Low vacuum switch with time delay
- ◆ Thermistor over temperature protection
- ◆ Low Level Protection and relay



CPS Soft Starter suggested Standard

MODEL	kW	FLC	Overload
CPS-8SS40	7.5	14 - 19	12 - 18
CPS-11SS46	11	19 - 26	18 - 26
CPS-15SS49	15	26 - 31	24 - 34
CPS-19SS52	18.5	32 - 40	30 - 40
CPS-22SS55	22	39 - 45	34 - 50
CPS-30SS58	30	52 - 58	43 - 65
CPS-37SS61	37	65 - 70	54 - 80
CPS-45SS64	45	78 - 87	65 - 100
CPS-55SS64	55	95 - 105	65 - 100
CPS-75SS73	75	125 - 140	100 - 150
CPS-90SS79	90	153 - 169	140 - 220
CPS-110SS79	110	182 - 206	140-220

CPS Variable speed drive Standard

MODEL	kW	FLC	PRICE
CPS-8VSD40	7.5	16A	POA
CPS-11VSD46	11	23A	POA
CPS-15VSD49	15	31A	POA
CPS-19VSD52	18.5	38A	POA
CPS-22VSD55	22	46A	POA
CPS-30VSD58	30	62A	POA
CPS-37VSD61	37	72A	POA
CPS-45VSD64	45	87A	POA
CPS-55VSD64	55	105A	POA
CPS-75VSD73	75	140A	POA
CPS-90VSD79	90	170A	POA
CPS-110VSD79	110	205A	POA

Options

CODE	OPTION
ACT	Ammeter CT operated
HRM	Hours Run Meter
NFD	No Flow circuit with time delay
BLC	Probe relay suit 1 or 2 probes
TCU	Thermistor overtemperature relay
LLR	Low Level protection circuit with relay
TX	24 Volt Extra Low Voltage control
DTC	Digital time control in lieu of standard
MTC	30 Hour count down timer
SDT	Start delay timer (Standard, 37 kW & above)
HPTD	High pressure protection with time delay
LPTD	Low pressure protection with time delay
PFR	Phase failure relay and time delay
SMS	SMS Text Start/Stop and fault indication via SMS



KENRAHAN LEVEL CONTROL STARTER

Level Control Panels



Standard Models Economy 240V DOL STARTER ONLY IP65 Polycarbonate enclosure

LCP standard Suit 2 wire 240 volt motors

MODEL	ORDER No	kW	Overload	REMARKS
LCP-EB-2D	313000346	0.37-2.2	N/A	Direct On line (DOL) starter housed in Polycarbonate dead front weather proof enclosure. Suitable for one or two probe systems up to 2.2kW

Standard Models 240V DOL STARTER ONLY IP65 Polycarbonate enclosure

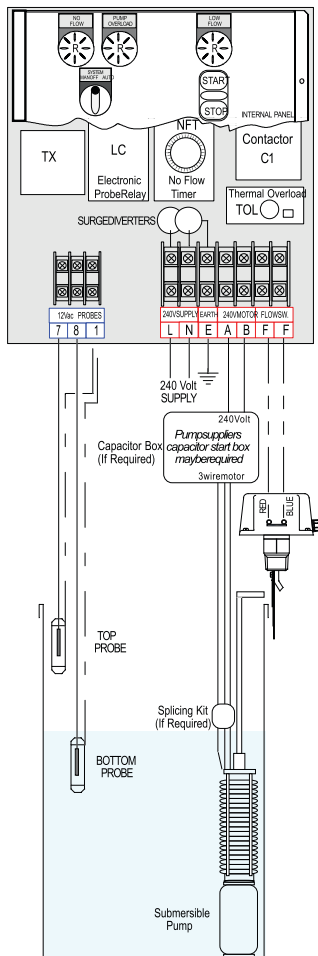
LCP standard Suit 2 wire 240 volt motors

MODEL	ORDER No	kW	Overload	REMARKS
LCP-2D	313000300	0.37	5.5 - 7.5	Direct On line (DOL) starter with thermal overload housed in Polycarbonate dead front weather proof enclosure.
LCP-2D	313000301	0.55	7.2 - 10	
LCP-2D	313000302	0.75	5.5 - 7.5	Suitable for one or two probe systems
LCP-2D	313000303	1.1	7.2 - 10	24V AC level ,pressure or F29 Flow switch terminals
LCP-2D	313000340	1.5	11.3- 16	
LCP-2D	313000341	2.2	15 - 20	Low bore indication with reset button Indication
LCP-2D	313000342	3.7	17 - 21.5	Overload Indication

Standard Models 240V DOL STARTER ONLY IP56 Polycarbonate enclosure Capacitors fitted

LCP standard Suit 3 wire capacitor start motors

MODEL	ORDER No	kW	REMARKS
LCP-C-2D	313000312	0.75	Direct On line (DOL) starter with thermal overload housed in Polycarbonate dead front weather proof enclosure.
LCP-C-2D	313000313	1.1	
LCP-C-2D	313000314	1.5	Suitable for one or two probe systems
LCP-C-2D	313000315	2.2	24V ac level ,pressure or F29 Flow switch terminals
LCP-C-2D	313000316	3.7	Overload Indication Low bore indication with reset button Indication



Standard Models 415V DOL STARTER ONLY IP56 Polycarbonate enclosure

LCP standard

MODEL	ORDER No	kW	Overload	REMARKS
LCP-6D	313000304	0.75	2.2 - 3.2	Direct On line (DOL) starter with thermal overload housed in Polycarbonate dead front weather proof enclosure.
LCP-6D	313000305	1.1	2.9 - 4.0	
LCP-6D	313000306	1.5	3.5 - 4.8	Suitable for one or two probe systems
LCP-6D	313000307	2.2	5.5 - 7.5	24V ac level ,pressure or F29 Flow switch terminals
LCP-6D	313000308	3.0	7.2 - 10	
LCP-6D	313000309	4.0	9.0 - 12.5	Overload Indication
LCP-6D	313000310	5.5	11 - 16	Low bore indication with reset button Indication
LCP-6D	313000311	7.5	15 - 20	

Only Options marked "*" are available on Steel models only.

CODE	OPTION
HRM	* Hours Run Meter
LLR	* Start on level fall, Stop on level rise for tank filling.
DTC	* Start on time, stop on time on particular days with reserve.
ME	* Metal enclosure with internal door.



KENRAHAN TANK FILING STARTERS

Kenrahan Tank Filling Starter

Tank Filling Starters >ll distant tanks by starting at various time signals and stopping when the float valves in the tank or tanks rise creating a low float or high pressure condition. The standard TFS is housed in a polycarbonate weather proof enclosure with external pressure or float switches being used. Steel versions with internal doors and inbuilt pressure switches are also available.



Standard Models 240V DOL STARTER ONLY IP65 Polycarbonate enclosure

FTS standard Suit 2 wire 240 volt motors

MODEL	ORDER No	k W	Overload	REMARKS
FTS-FRD-2D	313000317	0.37	3.5- 4.8	Direct On line (DOL) starter with thermal overload housed in Polycarbonate dead front weather proof enclosure.
FTS-FRD-2D	313000318	0.55	4.5 - 6.3	Time clock, Man-Off-Auto selector, Overload, Low pressure & High pressure 24v control.
FTS-FRD-2D	313000319	0.75	5.5 - 7.5	
FTS-FRD-2D	313000320	1.1	7.2 - 10	
FTS-FRD-2D	313000343	1.5	11.3- 16	Standard base model with pressure switch to stop when tank >lls and a pressure switch for broken pipes or loss of pressure protection.
FTS-FRD-2D	313000344	2.2	15 - 20	
FTS-FRD-2D	313000345	3.7	17 - 21.5	Time delay by-passes the pressure switches during starting Add options to this base model to suit your needs.

Note: Pressure switches not included on polycarbonate models see options below

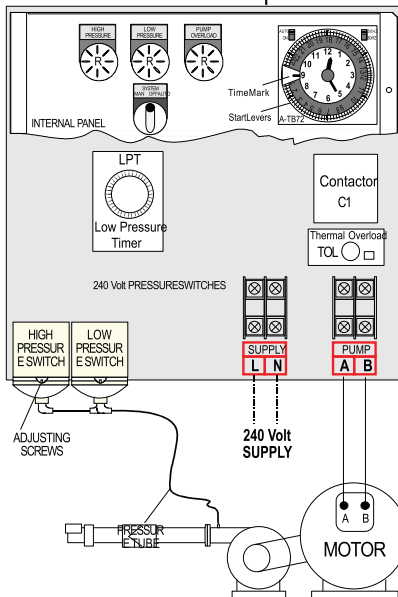
Standard Models 415V DOL STARTER ONLY IP56 Polycarbonate enclosure

FTS standard

MODEL	ORDER No	kW	Overload	REMARKS
FTS-FRD-6D	313000321	0.75	2.2 - 3.2	Direct On line (DOL) starter with thermal overload housed in Polycarbonate dead front weather proof enclosure.
FTS-FRD-6D	313000322	1.1	2.9 - 4.0	Time clock, Man-Off-Auto selector, Overload, Low pressure & High pressure 24v control.
FTS-FRD-6D	313000323	1.5	3.5 - 4.8	
FTS-FRD-6D	313000324	2.2	5.5 - 7.5	Standard base model with pressure switch to stop when tank >lls and a pressure switch for broken pipes or loss of pressure protection.
FTS-FRD-6D	313000325	3.0	7.2 - 10	
FTS-FRD-6D	313000326	4.0	9.0 - 12.5	
FTS-FRD-6D	313000327	5.5	11 - 16	Time delay by-passes the pressure switches during starting
FTS-FRD-6D	313000328	7.5	15 - 20	Add options to this base model to suit your needs.

Note: Pressure switches not included on polycarbonate models see options below

"Metal Enclosure Option"



Standard Models DOL STARTER ONLY IP56 Polycarbonate enclosure Capacitors fitted

FTS standard Suit 3 wire capacitor start motors

MODEL	ORDER No	kW	REMARKS
FTS-FRDC	313000329	0.75	Direct On line (DOL) starter with thermal overload housed in Polycarbonate dead front weather proof enclosure.
FTS-FRDC	313000330	1.1	Time clock, Man-Off-Auto selector, Overload, Low pressure & High pressure 24v control.
FTS-FRDC	313000331	1.5	
FTS-FRDC	313000332	2.2	Standard base model with pressure switch to stop when tank >lls and a pressure switch for broken pipes or loss of pressure protection.
FTS-FRDC*	313000333	3.7	Time delay by-passes the pressure switches during starting Add options to this base model to suit your needs.

Note: Pressure switches not included on polycarbonate models see options below

CAPACITORS.FITTED

Only Options marked "*" are available on Steel models only.

CODE	OPTION
HRM	* Hours Run Meter
LLR	Stop on level fall, resart on level rise for suction tank.
BLC	Low level probe circuit to stop pump on level fall
RP	Resart on level rise in the bore, for low yield bores
DTC	* Start on time, stop on time on particular days with reserve.
ME	* Metal enclosure with internal door and inbuilt pressure switches.
PS	XMPA Pressure switch to suit polycarbonate enclosure model .



CONSTANT PRESSURE CONTROLLERS

Controllers



PresFlo: Pump Pressure Controller

- Run dry / Excessive cycling protection - Auto reset
- Preset start pressure controllers, with gauge - Male 25mm barrel unions included
- Includes Plug and Play leads
- 2 year warranty

Product Code: DGPC		
Model		
PF1615P	2.2 kW, 1.5 bar start pressure, 16 Amps	
PF1622P	2.2 kW, 2.2 bar start pressure, 16 Amps	



PresFlo Multi: Adjustable Pressure Controller

- Programmable start pressure (adjustable from 1 to 5 Bar) and max. current
- Multi function pump controller with 2L pressure tank
- Male 25mm barrel unions included
- Includes Plug and Play leads
- 2 year warranty

Product Code: DGPC		
Model		
PFM16	2.2 kW maximum 16 Amps	



SteadyPres: Variable Speed Drive - Single Phase

- Variable speed constant pressure controller works in conjunction with a pressure tank (sold separately)
- LCD Display
- Programmable set and start pressures
- Over temperature protection
- Run dry / Excessive cycling protection
- Single-phase input / single-phase output - Three-phase available on request
- Unions are included with controller
- 2 year warranty

Product Code: DGPC		
Model		
ST M/M 11DE	1.5 kW and below, 11 Amps maximum	
ST M/M 13DE	2.2 kW , 13 Amps maximum	
E Card	Communication with other controllers	



Preset: Electronic Pressure Switch

- LCD Display
- Programmable start / stop pressures 1-9 bar
- Electronic pressure switch works in conjunction with a pressure tank (sold separately)
- Male 25mm barrel unions included
- 2 year warranty

Product Code: DGPC		
Model		
PS16	2.2 kW maximum 16 Amps	



Flux: Electronic Flow Switch

- Electronic flow switch
- Start / Stop pump at 1-2 Litres/min - Male 25mm barrel unions included - 2 year warranty

Product Code: DGPC		
Model		
FL16	2.2 kW maximum 16 Amps	



Barrel Union	Male 25mm Barrel Union P/No: DGSP 00108300A	
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CONSTANT PRESSURE CONTROLLERS



MP Plus Controller

- Compact and functional device -
- Auto reset after dry run
- AS/NZS 4020 approved and RCM Certified
- Includes Plug & Play leads
- Available in 240 volt, 50Hz, single-phase -
- 2 year warranty



Product Code: ADPC	
Model	
MP Plus 1.5 bar	P/No: MPPLUS-01A15-20



PENTAIR PUMP CONTROLS



ONGA PRESS CONTROL ONLY

	PART NUMBER	MPG	WARRANTY
ONGA@PRESSURE KIT 20-40 PSI BRASS, PRE-WIRED	800633-1*	Z2	2YR
ONGA@PRESSURE KIT 30-50 PSI BRASS, PRE-WIRED	800634-1*	Z2	2YR

**Use to depletion.*

ONGA@PRESSURE SWITCH KIT 20-40 PSI STAINLESS STEEL, PRE-WIRED	900633	Z2	2YR
ONGA@PRESSURE SWITCH KIT 30-50 PSI STAINLESS STEEL, PRE-WIRED	900634	Z2	2YR

ONGA@PRESS CONTROL & IEC KIT (INCL UNION) 1.5 Bar	880800	Z2	1YR
ONGA@PRESS CONTROL & IEC KIT (INCL UNION) 2.2 Bar	880801	Z2	1YR
SOUTHERN CROSS@PRESS CONTROL 1.5 Bar	XPC001A	Z2	1YR
SOUTHERN CROSS PRESS CONTROL 2.2 Bar	XPC001C	Z2	1YR
MC1500 MASCONTROL 10AMP IEC	130003	Z2	2YR
ADAPTOR UNION PC11EXTENSION	800664	40	1YR
WALL BRACKET KIT - ONGA@PRESS CONTROL 1.5 Bar	801447	Z2	1YR

ONGA@PRESSURE GAUGE 0-800kPa (Gylc)	700240	40	2YR
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PRESSURE SWITCH SQUARE D 30-50	700244	40	2YR
PRESSURE SWITCH (20-80 psi)	700246	40	2YR
PRESSURE SWITCH LOP (20-80 psi)	702363	40	2YR



HYDROVAR CONTROLLERS



HYDROVAR®

Variable Speed Drives

- IP55 Rated
- Price includes 10 bar pressure transducer (standard) and motor cable
- 16, 25 and 40 bar transducers available on request
- 2 year warranty on Hydrovar and accessories

HYDROVAR®



Generation 5

Product Code: HVAR		
Model	kW	240 V 1 Phase 50Hz
HVL2.015	1.50	
HVL2.022	2.20	
HVL2.030	3.00	
HVL2.040	4.00	

Product Code: HVAR		
Model	kW	415 V 3 Phase 50Hz
HVL4.015	1.50	
HVL4.022	2.20	
HVL4.030	3.00	
HVL4.040	4.00	
HVL4.055	5.50	
HVL4.075	7.50	
HVL4.110	11.00	
HVL4.150	15.00	
HVL4.185	18.50	
HVL4.220	22.00	



Danfoss Drives

Variable Speed Drives

- Danfoss FC202 Aqua Drives 380-480 VAC - IP55 Rated up to 90.0kW
- IP54 Rated 110.0kW and above
- Wall mounting brackets built in, no additional wall mount kits needed - Pressure transducers are sold separately
- 2 year warranty on Danfoss drives and accessories



Product Code: DANF			
Model	Nominal kW	Amps 110%	415 V 3 Phase 50Hz
DANF-131U2462	0.37	1.3	
DANF-131U3056	0.55	1.8	
DANF-131U3057	0.75	2.4	
DANF-131U3058	1.10	3	
DANF-131U3059	1.50	4.1	
DANF-131U3060	2.20	5.6	
DANF-131U3061	3.00	7.2	
DANF-131U3062	4.00	10	
DANF-131F1411	5.50	13	
DANF-131F1414	7.50	16	
DANF-131F1415	11.00	24	
DANF-131F1420	15.00	32	
DANF-131F1582	18.50	37.5	
DANF-131F1583	22.00	44	
DANF-131F1584	30.00	61	
DANF-131F1585	37.00	73	
DANF-131F1586	45.00	90	
DANF-131F1587	55.00	106	
DANF-131F1588	75.00	147	
DANF-131F1646	90.00	177	

**Note pressure transducers are sold separately*

Product Code: DANF			
Model	Nominal kW	Amps 110%	415 V 3 Phase 50Hz
DANF-134F9720	110.00	212	
DANF-134F9721	132.00	260	
DANF-134F9722	160.00	315	
DANF-134F9723	200.00	395	
DANF-134F9724	250.00	480	
DANF-134F9725	315.00	588	

**Note pressure transducers are sold separately*



PRESSURE TRANSDUCER -ACCESSORIES & LEADS

Pressure Transducers - Accessories



Transducers & Leads

Pressure transducers including cable, 4-20mA

Product Code: HVAR	
Part No	Description
KIT TRANSDUCER 0-10	0-10 bar Type Pressure Transducer
KIT TRANSDUCER 0-16	0-16 bar Type Pressure Transducer
KIT TRANSDUCER 0-25	0-25 bar Type Pressure Transducer
KIT TRANSDUCER 0-40	0-40 bar Type Pressure Transducer
VK709591900	5 Metre Transducer Lead & Plug
VK709591620	10 Metre Transducer Lead & Plug
VK709591690	20 Metre Transducer Lead & Plug

Hydrovar Accessories

Product Code: HVAR	
Part No	Description
VK26-109730080	Premium Card GEN5
Hydrovar wall mounting kits and line filters are available on request	

Danfoss LCP Accessories

For remote mounting of FC202 keypad and display

Product Code: DANF	
Part No	Description
DANFLCP MOUNTKIT LCP102 3M	LCP Mounting Kit w/ graphical LCP102, 3m
DANFLCP MOUNTKIT NOLCP	LCP Mounting Kit, w/ no LCP
DANFLCP MOUNTKIT COVER 8M	LCP Mounting Kit Blind Cover IP55/66, 8m
DANFLCP MOUNTKIT 3M	LCP Mounting Kit, 3m

Danfoss Communication Options

Product Code: DANF	
Part No	Description
DANFVLT PROFIBUS	VLT® Profibus DP V1 MCA 101, coated
DANFVLT PROFINET	VLT® PROFINET MCA 120, coated FC-202 / IPC102 / ITT102
DANFVLT DEVICENET	VLT® DeviceNet MCA 104, coated FC-202 / IPC102 / ITT102
DANFVLT ETHERNET	VLT® EtherNet IP MCA 121, coated FC-202 / IPC102 / ITT102
DANFVLT MODBUS	VLT® Modbus TCP MCA 122, coated

Danfoss I/O Options

Product Code: DANF	
Part No	Description
DANFVLT GPI/O MCB	VLT® General Purpose I/O MCB 101, coated
DANFVLT RORelay Option	VLT® Relay Option MCB 105, coated
DANFVLT AIO Option MCB	VLT® Analog I/O Option MCB 109, coated
DANFVLT PTCOPTC Thermistor Card	VLT® PTC Thermistor Card MCB 112, coated
DANFVLT SOSensor Input Card	VLT® Sensor Input Card MCB 114, coated
DANFVLT ABOpt. Adapter MCF	VLT® A/B in C Opt. Adapter MCF106, coated



Pump Control Equipment

Kenrahan Controls

Kelco Controls

Hydrovar Controls

Constant Pressure Controls

Pressures Switches / Transducers



**For Assistance please contact Michael: 0488 917 285 or
michael@irrigationdirect.com.au**