

# KELCO

## IPG20 MK3 Intelligent Pump Guard

DESIGNED FOR BOTH FRESH WATER AND  
EFFLUENT IRRIGATION SYSTEMS

### Features

- Learns the operating pressure
- Fixed or travelling irrigation systems
- Compensates for change in terrain
- Cyclic running for pod systems
- Leak and blockage detection
- Loss of flow protection
- Displays pressure and set points
- 20 Bar / 2000 kPa pressure rating
- Multi voltage operation
- Manual or automatic operation
- IP64 rating



The IPG20 MK3 intelligent pump guard learns the operating pressure each time the system is started and then applies the predetermined under and over pressure set points. This allows for highly targeted leak and over-pressure detection. Designed for either fixed pods or travelling irrigators.

Further information including installation guides, programming guides and videos can be found on our website:

<http://www.kelco.com.au/ipg20-intelligent-pump-guard>

### 3-Phase Pump Motors

The IPG20 MK3 can be used to control both single and 3-phase pumps provided a 220~240VAC or 24VAC or DC supply is available at the installation site.

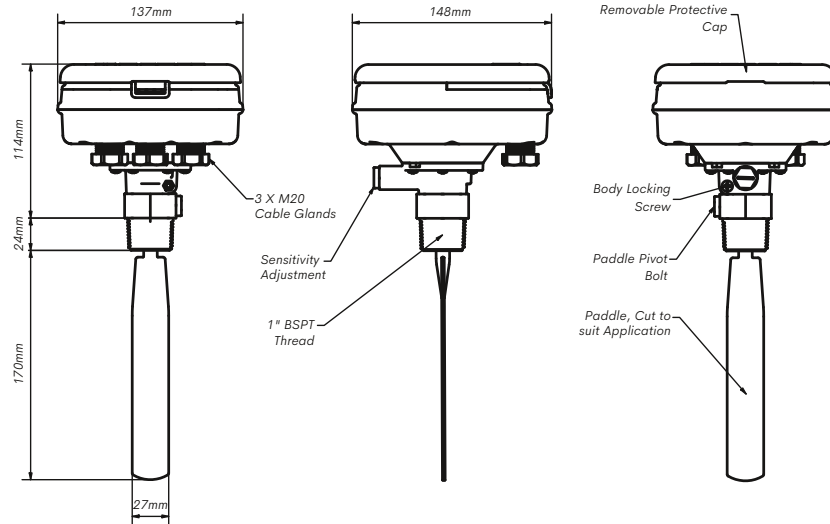
### Ordering

The IPG20 MK3 intelligent pump guard is of thermoplastic construction with a 1" BSP process connection. Supplied with 1 paddle to suit pipe sizes 25mm and greater, and 2 trailing wires to suit pipe sizes from 65mm – 100mmID, subject to velocity.

Model Number	Description
IPG20-MK3	Standard model for 220 ~ 240 VAC and 24V AC or 24V DC operation.
IPG20-12-MK3	Low voltage model for 12V DC operation only.

# IPG20 SERIES DATA

## Dimensions



## Functions

The IPG20 MK3 intelligent pump guard includes many unique functions as set out below.

Functions (# Settable)
# Manual or Automatic operation
# Auto terrain compensation (allows for contour change with a travelling irrigator)
# Drift allowance in kPa (auto terrain compensation only)
# Pre-start delay timer
# Use alarm relay
# Absolute low pressure (major leak during start up)
# Low pressure margin (fine leak detection)
# Absolute high pressure (closed valve protection)
# High pressure margin (partial blockage detection)
# Set point margin (allowable pressure variation during learning process)
# Ramp-up timer (allows time to establish stable pressure)
# Set point timer
# Pressure dip timer
# Pressure spike timer
# Run on timer (loss of flow)
# Cyclic running (not available in auto terrain compensation)
# Auto restart on a fault (not available in auto terrain compensation)
# Program lock
Displays the system pressure in kPa
Displays the high & low pressure set points
Displays the total time the pump ran in minutes
Displays the reason for stopping on a fault
Instigate learning process using a remote switch (manual operation)
No-flow protection at all times

## Serviceability

The IPG20 MK3 intelligent pump guard is not user serviceable. However, spare parts are available from Kelco Engineering or from your distributor.

## Operating Limitations

Operating Range	
Ambient Temperature Range	1°C to 50°C
Liquid Temperature Range	1°C to 60°C
Ingress Protection Rating	IP64
Pre-Start Delay Timer	Adjustable from 1 second to 27.7 hours in 1 second increments
Start-up Timer (no flow detection)	Adjustable from 1 second to 4 minutes in 1 second increments
Ramping-up Timer (allows pressure to stabilise)	Adjustable from 1 second to 15 minutes in 1 second increments
Run-on Timer (loss of flow detection)	Adjustable from 1 second to 15 minutes in 1 second increments
Pressure Dip Timer	Adjustable from 1 second to 4 minutes in 1 second increments
Set Point Timer	Adjustment in increments of 60 seconds
Cyclic Running & Stopping	Running and stopping times both adjustable from 2 minutes to 99 hours 59 minutes in 1 minute increments
Auto Restart after a fault	Adjustable from 1 minute to 99 hours 59 minutes in 1 minute increments Not available in auto terrain compensation
Maximum Operating Pressure, Static or Dynamic	20 Bars/2000 kPa
Minimum Burst Pressure	> 30 Bar/3000 kPa
Starting Pressure Range	0 to 2000 kPa in steps of 1 kPa
Stopping Pressure Range	0 to 2000 kPa in steps of 1 kPa
Minimum Pressure Differential	1 kPa
Recommended Pipe Size.	25mm (1") or larger. (There is no upper limit)

## Electrical Data

Supply Voltage	220 to 250 VAC or 18 to 25 VAC or DC (Multi Voltage Input)
Maximum Motor Load	Single phase motors up to 2.4kW maximum at 240VAC (P1). Three phase motors of all sizes via a suitable interposing contactor, no maximum motor size applies
Relay 1 Contact Rating	16 Amps at 240 VAC resistive
Relay 2 Contact Rating	16 Amps at 240 VAC resistive

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