

# B6455 Autostart Pump Panel

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catalogue section 30



- **Auto pump start/stop from high and low float contacts**
- **Engine fault shutdown protection and indication**
- **Engine speed tachometer and overspeed protection**
- **IP54 weatherproof enclosure**

## Description

Panel B6455 provides automatic or manual control, instrumentation and protection for 12V DC diesel-driven pumps. The panels include:-

- Sheet steel, black-painted, IP54 enclosure
- Murphy ASM170 control module with customised program, for engine auto start/stop and fault protection. Includes LED indicators: (low) oil pressure, (high) engine temperature, failed to start, overspeed, engine running, preheat.
- Security keyswitch, Manual–Off–Auto
- Murphy ATHS-30-12-C combined tacho and hourmeter
- Charge alternator lamp, for alternator excitation and failure warning.
- Power supply fuse holder and 10A fuse.
- Integral 10-way, 700mm wiring harness for engine control connections.
- 2 x 4-way sockets on the front facia (complete with removable weatherproof covers) for connection of auto start and auto stop float level switches. 2 x 4-way plugs (complete with removable weatherproof covers) are supplied loose for use on the float switch wiring harness.

Operator control is through the Manual-Off-Auto keyswitch:-

Manual	Gives an immediate, automatic start of the pump and continuous running.
Off	Removes power the ASM170 control module, giving an immediate engine stop or fault reset.
Auto	Pump auto start/stop controlled by remote float level switches. Default set-up is for auto start and auto stop by separate, momentary closing remote contacts, but ASM170 can be configured for use with a single closed-to-start, open-to-stop contact.

## Product specification

<b>Power supply:</b>	
operating voltage:	12V DC nominal
ASM170 controller	6 to 16 VDC continuous
ATHS tachourmeter	11.6 to 16 VDC continuous
current consumption:	(N.B. excludes output load)
standby (typ)	7 mA @ 12V
cranking (typ)	250 mA @ 12V
<b>Inputs:</b>	
engine low oil pressure & high coolant temperature	closed to negative DC on fault
magnetic pickup voltage range:-	1.5 – 14.4 V AC rms
autostart and autostop	momentary closed to start/stop
<b>Outputs:</b>	
<i>(all ratings for resistive load)</i>	
fuel	positive DC, smart-FET, 10A max, for 'energised to run' fuel controls
preheat and crank	positive DC, switched relay, 5A max per output
combined outputs (fuel, preheat and crank)	10A max, protected by replaceable supply fuse
<b>Settings:</b>	
crank/rest time (ASM pot R1)	10 secs (adjustable 1 - 25 sec)
crank attempts (ASM switches)	3 (adjustable to 5, 10 or 255)
lockout delay (ASM pot R5)	10 secs (adjustable 1 – 300 sec)
minimum run time (ASM pot R4)	5 mins (adjustable 0 – 60 mins)
crank release freq. (ASM pot R3)	13 – 2300 Hz
overspeed freq. (ASM pot R2)	13 – 8500 Hz
tachometer calibration	70 to 225 teeth (pulses per rev)
<b>Physical:</b>	
overall dimensions (W x H x D)	170 x 250 x 165 mm
approx. weight	2.7 Kg
operating ambient temperature	-10 to +55 °C
<b>Accessories (supplied loose):</b>	
magnetic pickup 68.MP.0060	thread: M16 x 1.5 length: 48mm connection: 6mm spade
preheat slave relay	SPNO relay, max 60A @ 12 VDC
starter slave relay	SPDT relay, max 30A @ 12 VDC

**MURPHY**

The ASM170 control module gives an automatic (starter motor) crank release in both manual and automatic start modes, using a flywheel/gearwheel mounted magnetic pickup to sense engine speed. Pickup model 68.MP.0060 is supplied loose with each panel.

The automatic engine start sequence comprises:-

- 3 crank attempts (adjustable to 5, 10 or 255)
- 6 second preheat (non-adjustable)
- 10 sec crank/rest time (adjustable 1 to 25 secs)

If the module fails to sense engine speed after the set number of start attempts, a Failed To Start fault is signalled.

The magnetic pickup circuit also feeds the ATHS tachometer/hourmeter. Tachometer calibration, and the ASM170 crank release and overspeed shutdown levels, must be set during panel commissioning.

Engine low oil pressure and high engine temperature faults are sensed by connection of remote fault switch or Murphy Switchgag contacts (not supplied), closing to negative DC during fault.

The following are supplied loose with each panel:-

- 1 x 60 Amp (preheat) and 1 x 30 Amp (starter solenoid) slave relays, for external connection when preheat and crank solenoid loads exceed the panel outputs' 5 Amp ratings.
- 68.MP.0060 magnetic pickup, for speed sensing
- 2 x 4-way connectors with terminal covers, for use in the float switch wiring harness.
- Circuit diagram and product specification

## Warranty

A two year limited warranty on materials and workmanship is given with this product. Full details are available at [www.fwmurphy.co.uk/warranty](http://www.fwmurphy.co.uk/warranty)

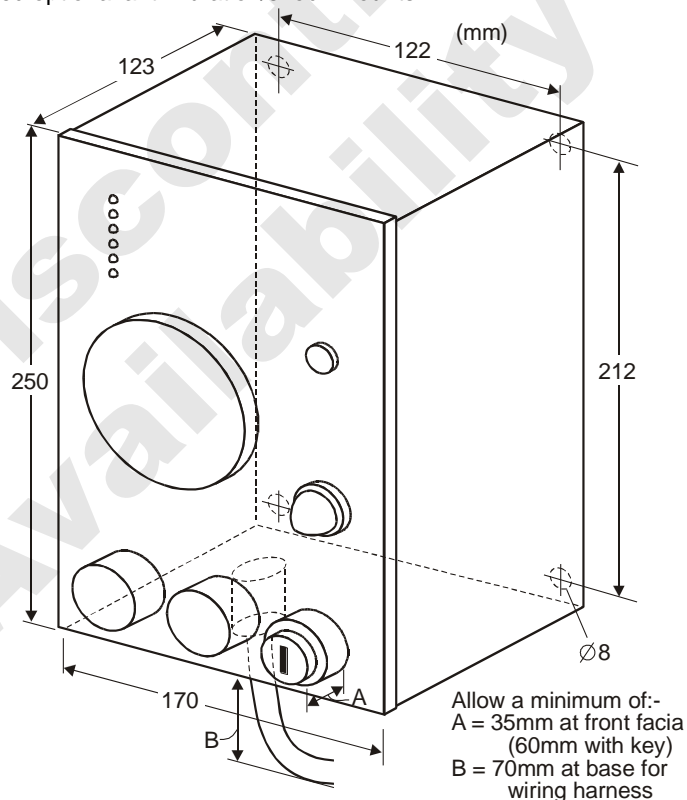
## Electrical connection

Panel-to-engine electrical connection is via a 10-way, 700mm wiring harness with numbered leads as detailed below. A full wiring diagram (SE6448) is supplied with each panel:-

1	Battery positive power supply, 12 VDC (10A max)
2	Battery negative power supply
3	Crank output, positive DC (5A max.)
4	Preheat output, positive DC (5A max.)
5	Fuel output, positive DC (10A max.)
6	Charge alternator WL
7	Magnetic pickup speed input positive
8	Low oil pressure input, closed to negative on fault
9	High engine temperature, closed to negative on fault
15	Magnetic pickup speed input negative

## Dimensions

Position the panel in a location that minimises extremes of temperature or ingress of moisture and dust/dirt. Where required, used optional anti-vibration/shock mounts.



## How to order

**stock code** **model / description**

**B6455** Pump control panel, 12V DC systems, supplied complete with magnetic pickup, slave relays and wiring harness connectors.

**B6492** As above, for 24V DC systems.

### Accessories:-

**91.12.0038** Optional shockmounts, 1/4" UNC (up to 4 may be required)

**60.WS.2162** Magnetic pickup screen cable, per metre

## Further information

document	description
SE6448	B6455 circuit diagram
ASM-03021B	ASM170 control module sales bulletin
ASM-03024N	ASM170 control module installation
TAH-97026B	AT series tachometers sales bulletin
TAH-97029N	AT series tachometers installation
ys6336	magnetic pickup sales bulletin
MP-8802N	magnetic pickup installation

Full information for the above and other products is available at [www.fwmurphy.co.uk/products](http://www.fwmurphy.co.uk/products)