

## B6497 Keystart and Tachourmeter Control Panel



### Features

- Keystart operator control & fault indication
- ATHA tachourmeter: analogue RPM, digital hours run indication
- Compatible with mechanical (non-ECU) engines
- Integral 2 metre wiring harness
- Optional connector for direct mating with JCB 444 Tier III engines

Murphy panel B6497 provides operator-controlled start/stop and fault protection for mechanical (non-ECU) engines. The panel can be used with stationary engine applications such as pumps, compressors, shredders, etc.

Operator control is through a 3 position keyswitch on a Murphy Keystart 9620 module - see diagram overleaf for operation details. The key is common to all Keystarts and is removable only in the Stop/Reset (O) position.

The Keystart module also provides automatic fault shutdown protection. Three inputs, with associated indicating LEDs, enable shutdowns triggered from high coolant temperature, low oil pressure and auxiliary fault switches (closing to negative DC during fault). A separate connection provides charge alternator excitation current, with LED indication of charging fault. Indication of engine speed (0 – 3000 RPM) and hours run is by a Murphy ATHA tachourmeter, driven from the charge alternator connection.

Panel B6497 is housed in a rugged, black-painted metal case. Electrical connection is via a 2 metre, 14-way integral harness: ring terminals are supplied for battery DC power supply; other circuits are via stripped wires termination or optional Deutsch HDP26-24-19SE connector for direct compatibility with JCB 444 Tier 4 engine wiring harness.

### Specifications

#### Power supply

**Operating range:** 8 – 16 VDC  
**removable fuse:** 10 Amp

#### Fault inputs

**Low oil pressure, high engine temperature, auxiliary:**  
input closed to battery negative during fault

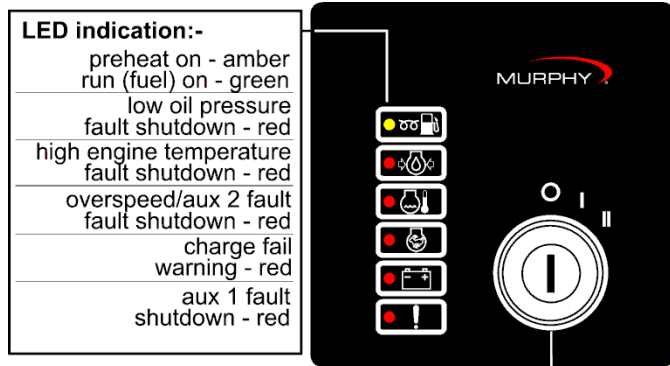
#### Outputs

**Run (fuel):** positive DC, switch NO relay contact, 10 A max at 16 VDC  
**Start (crank):** positive DC via keyswitch contacts, 10 A max at 16 VDC

#### Physical

**overall dimensions (w x h x d):** 270 x 150 x 110 mm  
**weight:** 2.9Kg  
**operating ambient temperature:** –10 to +55°C

## Keystart front view & operation



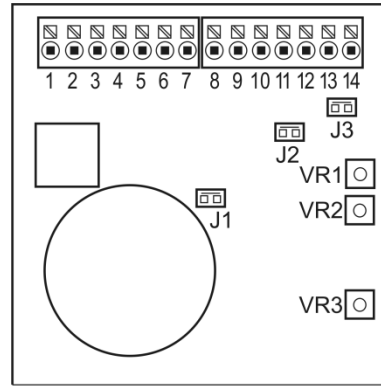
### LED indication:-

preheat on - amber  
run (fuel) on - green  
low oil pressure  
fault shutdown - red  
high engine temperature  
fault shutdown - red  
overspeed/aux 2 fault  
fault shutdown - red  
charge fail  
warning - red  
aux 1 fault  
shutdown - red

### 3 position keyswitch:

- Off/Reset.** Removes power, stops the engine and resets any latched shutdown fault.
- Run.** Activates the timed Preheat output (if enabled), followed by activation of the Run output. The fault 'override' timer begins as soon as the Run output activates. Once the engine is fully running, Keystart monitors for faults and shuts down the engine if a fault is detected.
- Start/crank.** Maintains the Run output, and activates the Start (crank) output. Shutdown fault inputs are disabled and the fault override timer is reset. This position spring-returns to I (Run) on release.

## Keystart rear view, connection & settings



### Connection:-

- 1 run (fuel) output: +DC, 10A
- 2 preheat output: +DC, 10A
- 3 start (crank) output: +DC,
- 4 + DC power supply
- 5 charge fail (WL)
- 6 oil pressure fault input
- 7 aux. 1 fault input !
- 8 engine temp fault input
- 9 aux. 2 fault input
- 10 alarm output: - DC, 250mA
- 11 tachometer/calibration output
- 12 - DC power supply

### Speed input, model 9621 only

- links J2 and J3 ON:-  
13 L Generator AC, 50/60Hz  
14 N 70-270 VAC, 50/60Hz  
links J2 and J3 OFF:-  
13 + magnetic pickup,  
14 - 10-60 VAC, 2000-650C

### Configuration:-

Use a 3 mm/0.1 in. flat head screwdriver for potentiometers VR1-VR3

### All models:-

- J1:** preheat  
- link ON for no preheat  
- link OFF for 10 second preheat  
**VR1:** Fault override, 2 - 20 secs, clockwise to increase.

### Model 9621 only:-

- J2 & J3:** speed sensing source (pins 13 and 14):-  
- both links ON for generator AC, 50/60Hz  
- both links OFF for magnetic pickup, 2000 - 6500 Hz.  
**VR2:** Speed calibration. Set J2 and J3 correctly, run engine to nominal speed, adjust VR2 to give tachometer output of 0.75mA  
**VR3:** Overspeed, 100 - 130% of VR2, clockwise to increase

## How to order

Model code	Description
B6497	Keystart and tachometer control panel. 2 metre harness: - ring connectors for DC supply - stripped wire terminations for other connections
B6497-CON	Keystart and tachometer control panel. 2 metre harness: - ring connectors for DC supply; - Deutsch HDP26-24-19SE connector for direct compatibility with JCB 444 Tier 4 engine optional wiring harness

## Further information

Document	Description
0810288	Keystart 962x series bulletin
ys6374	AT series tachometer/tachometer bulletin