



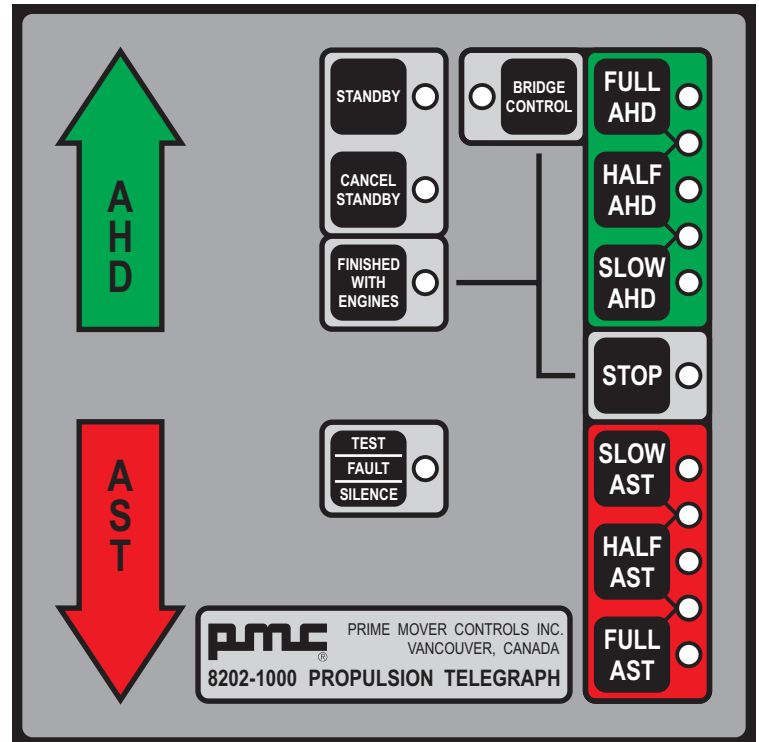
# Series 8202-1000

The PMC series 8202-1000 Propulsion Order Telegraph is a compact, modular, microcontroller marine telegraph for single or twin screw systems. It operates as a stand alone or backup system. The 8202 functions independently of the ship's main propulsion controls and allows emergency operation when primary remote controls fail.

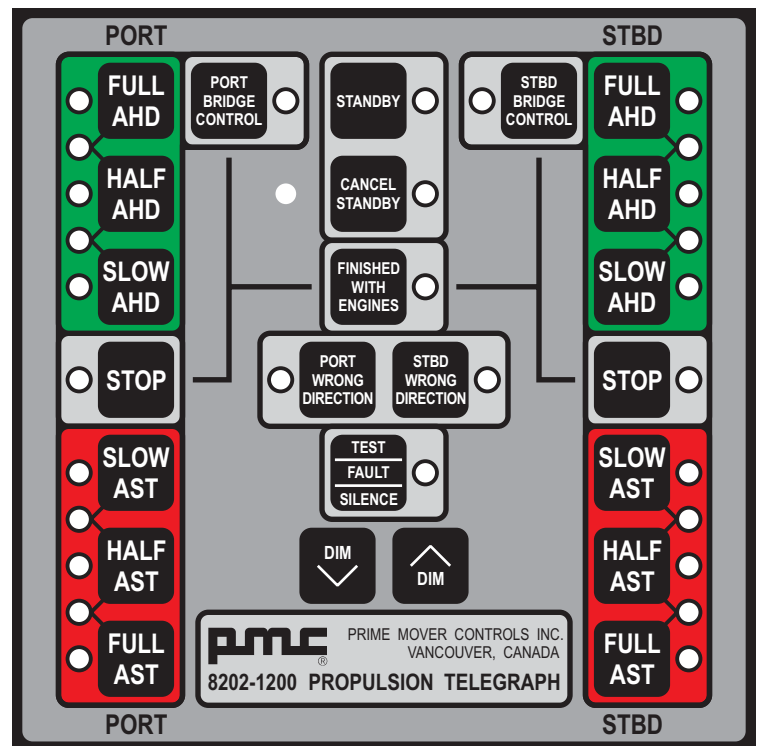
## FEATURES

- Eleven Port orders, eleven Starboard orders, Bridge Control orders, and a Finished with Engines order
- Independent Standby orders
- Optional wrong direction alarms
- Single or twin screw
- Forward or Aft facing
- Up to six engine room units and nine bridge units
- Super bright order indicators for daylight operation
- Backlit buttons for night operations
- Bridge units are dimmable
- Reliable communication and transceiver technology for the marine environment
- Communication cable length up to 2700 meters
- Dual 24 V<sub>DC</sub> inputs use ship's power supplies
- Relay outputs for external order and wrong direction bells
- Relay output for unit fault (communication, CPU, power or setup fault)
- Self diagnostics with status indication
- 144 mm DIN mounting
- IP65 splash proof front

## PROPULSION TELEGRAPH



single screw



twin screw

**PRIME MOVER CONTROLS INC.**

## DESCRIPTION

The PMC series 8202-1000 Propulsion Order Telegraph is a compact, modular microcontroller marine telegraph for single or twin screw systems. It operates as a stand alone or backup system. The 8202 functions entirely independently of the ship's main propulsion controls and allows emergency operation when primary remote controls fail.

The 8202 provides pushbutton communications of all standard propulsion orders between bridge and engine room. In addition standby orders are included which may be operated at any time, independently of the propulsion orders. Communication is fully bi-directional; orders may be placed from either source.

Optionally, direction can be monitored in Ahead, Astern and Stop positions. Wrong direction status is visually and audibly alarmed at all stations.

Up to nine bridge and six engine room telegraphs may be connected together, with a minimum configuration of one bridge and one engine room telegraph. Twin screw telegraph systems can have split Port and Starboard telegraphs for local at machinery stations.

Order indicators are super bright LEDs for daylight operation and all buttons have backlit legends for night operation. Bridge telegraphs are fully dimmable and can be grouped together to dim in unison. The bridge telegraphs measure ambient light and can be set to automatically control the indicator dimming levels.

Designed for the harsh marine environment, the 8202 is both rugged and reliable. The compact, 144mm DIN mounted anodized aluminum enclosure with lexan front provides IP65 protection. Advanced transceiver and noise suppression technology is used, virtually eliminating the effects of electromagnetic and radio frequency interference. Microcontroller technology and the ability to operate from dual standard 24 VDC supplies, ship's batteries or commercial power supplies provides the 8202 with versatility and reliability.

Self diagnostics are performed by each 8202 for communication, cpu, power and setup faults. Fault status is visually and audibly alarmed at all stations.

Connections to the 8202 have been designed to

reduce installation cost. Only one twisted pair cable is required for communication and can be up to 2700 meters in total length. Each telegraph is powered directly from ship's 24 VDC power and can auto transfer to a backup 24 VDC power source. The wrong direction sensor connects directly into the 8202 communication lines.

Programming of the 8202 (order bell time delay, master station, auto dimming, etc.) is by a simple set of rotary and dip switches making set up and service a simple procedure.

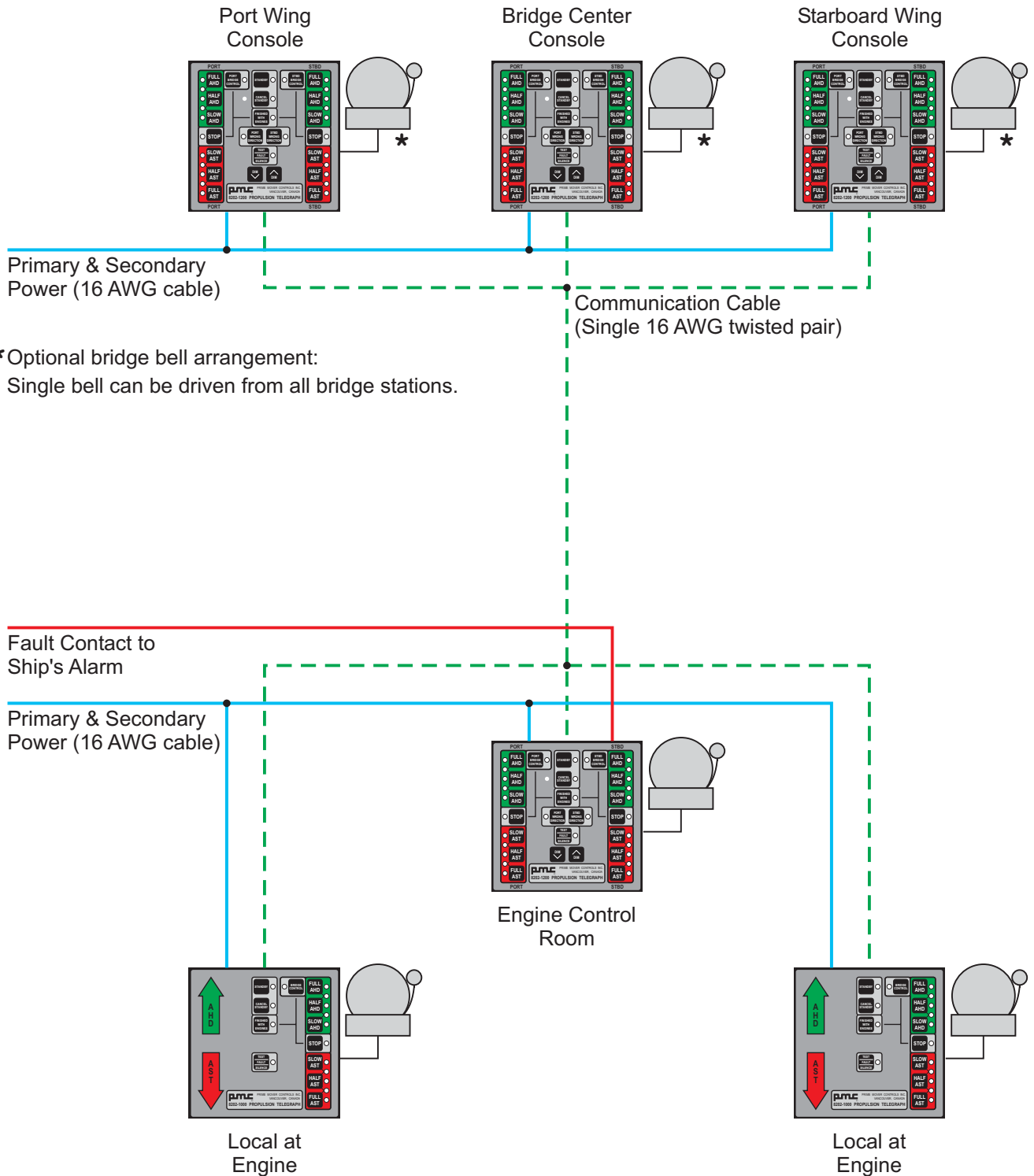
System accessories available from PMC include: bells, horns and project specific drawings.

## OPERATION

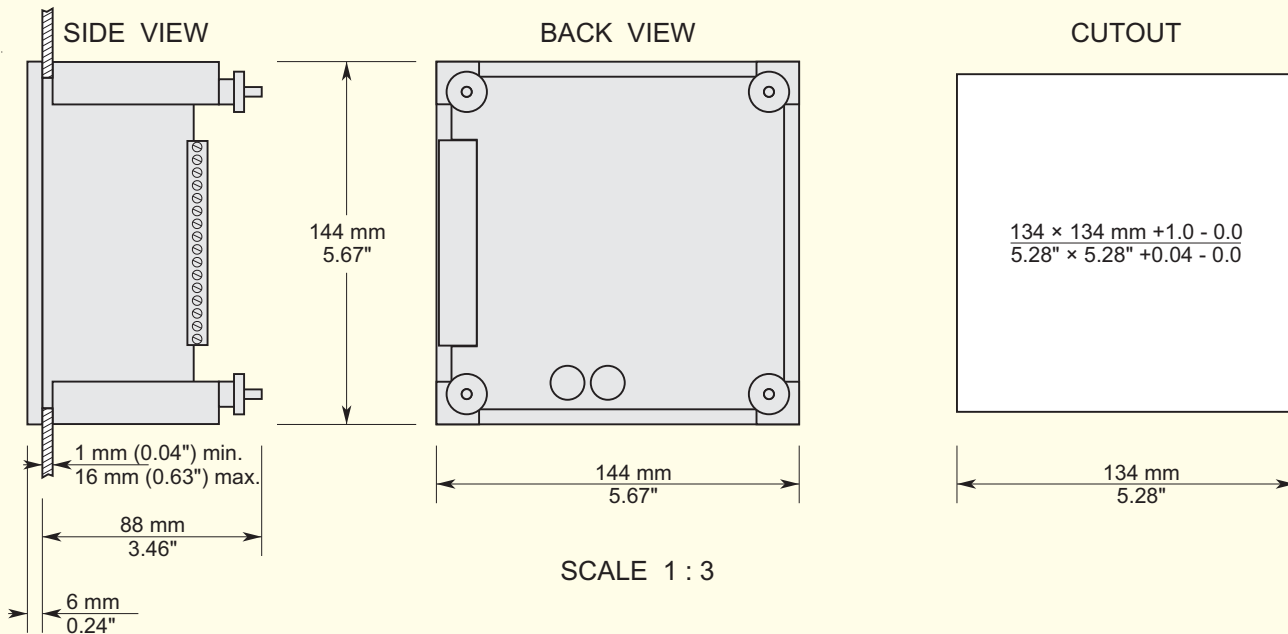
The 8202 consists of three order groups: Port, Starboard and Standby orders. These groups operate as follows:

1. Completed orders are displayed as indicators steady ON and all audible signals are silent.
2. A new order can be placed by pressing another order button which then flashes the order at all stations. At the same time the internal horn operates and will continue to operate until the order is acknowledged. The optional external bell can be set for a time delay.
3. The new order is acknowledged at the receiver by pushing the flashing order button, which then turns the order to steady ON, The previous order is cancelled, and all audible signals are silenced.
4. New orders can be changed or cancelled at the transmitting telegraph group prior to being acknowledged.

## Typical Telegraph System Block Diagram for twin screw installation



## DIMENSIONS AND CUTOUT FOR 8202-1000 SERIES PROPULSION TELEGRAPH



Mounting hardware is included with each unit and consists of 4 knurled thumb nuts and 4 clamps.

### SPECIFICATIONS:

#### Supply:

- Dual 24 V<sub>DC</sub> inputs
- Nominal 24 V<sub>DC</sub>, range 12 to 35 V<sub>DC</sub>
- Reverse and overvoltage protection to 120 V<sub>AC</sub>
- Low voltage alarm at 17 V<sub>DC</sub>
- 180 mA nominal, 380 mA max
- Input power fuse, 2 A, type ABC-2

#### Inputs / Outputs:

- Bell relay NO contact, 5 amps @ 250 V<sub>AC</sub> 30 V<sub>DC</sub>
- Aux relay NO contact, 5 amps @ 250 V<sub>AC</sub> 30 V<sub>DC</sub>
- Fault relay form 'C' contacts, 1 amp @ 30 V<sub>DC</sub>
- Local Command Disable input for volt free contact

#### Communication:

- Cable, single 16 AWG twisted pair
- Bus Topology, total wire length 2700 meters
- Free Topology, total wire length 500 meters
- Optional repeater to extend total wire length

#### Environmental:

- Operating temperature -25 to +70°C
- Storage temperature -30 to +85°C
- Vibration: Frequency range 2 to 100 Hz  
Peak to peak amplitude 2 mm below 13.2 Hz  
Acceleration amplitude 0.7 g above 13.2 Hz

#### Physical:

- IP65 front (IP40 case)
- Dimensions 144 mm H × 144 mm W × 94 mm D (5.67" H × 5.67" W × 3.70" D)
- Weight 1.2 kg (2.65 lbs)
- Removable terminal block for 14 to 20 AWG wires

#### OPTIONS:

- Single or twin screw
- Forward or Aft facing
- Wrong direction alarms
- Time delay for wrong direction bell
- Time delay for order bell
- Input for unit disable (order buttons disabled)
- Manual, auto or no dimming
- Group dimming for adjacent units
- Adapter for connection to data logger or printer
- Router to increase maximum communication cable length

#### System Accessories Available from PMC:

- Wrong direction sensors
- Bells, horns and lights
- Project specific connection diagrams drawn with AutoCAD
- Setup and testing of system by PMC personnel

## PRIME MOVER CONTROLS INC.

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