



Series 8550-3200 MPC-CP SYSTEM

FEATURES

- Aesthetic design
- Ergonomic
- Versatile
- Economical
- Electronic engine link
- Actuator links
- Safety interlocks
- Station transfer
- Supports up to 15 stations
- Multi-functional display and horn at each station
- Redundant engine and pitch control
- Redundant control lever position sensing
- Redundant power
- Redundant communication
- Redundant components monitored internally
- Electrically isolated port and stbd sections within the control boxes for complete port/stbd system independence
- Watertight components and connectors
- Serial communication reduces wiring
- Factory preassembled cables
- Self diagnostics
- Optional electric shaft
- Variety of machinery arrangements
 - › One engine, one shaft
 - › Two engines, one shaft
 - › Two engines, two shafts
 - › Double ended vessel arrangements
 - › Shaft generators and other PTO machinery

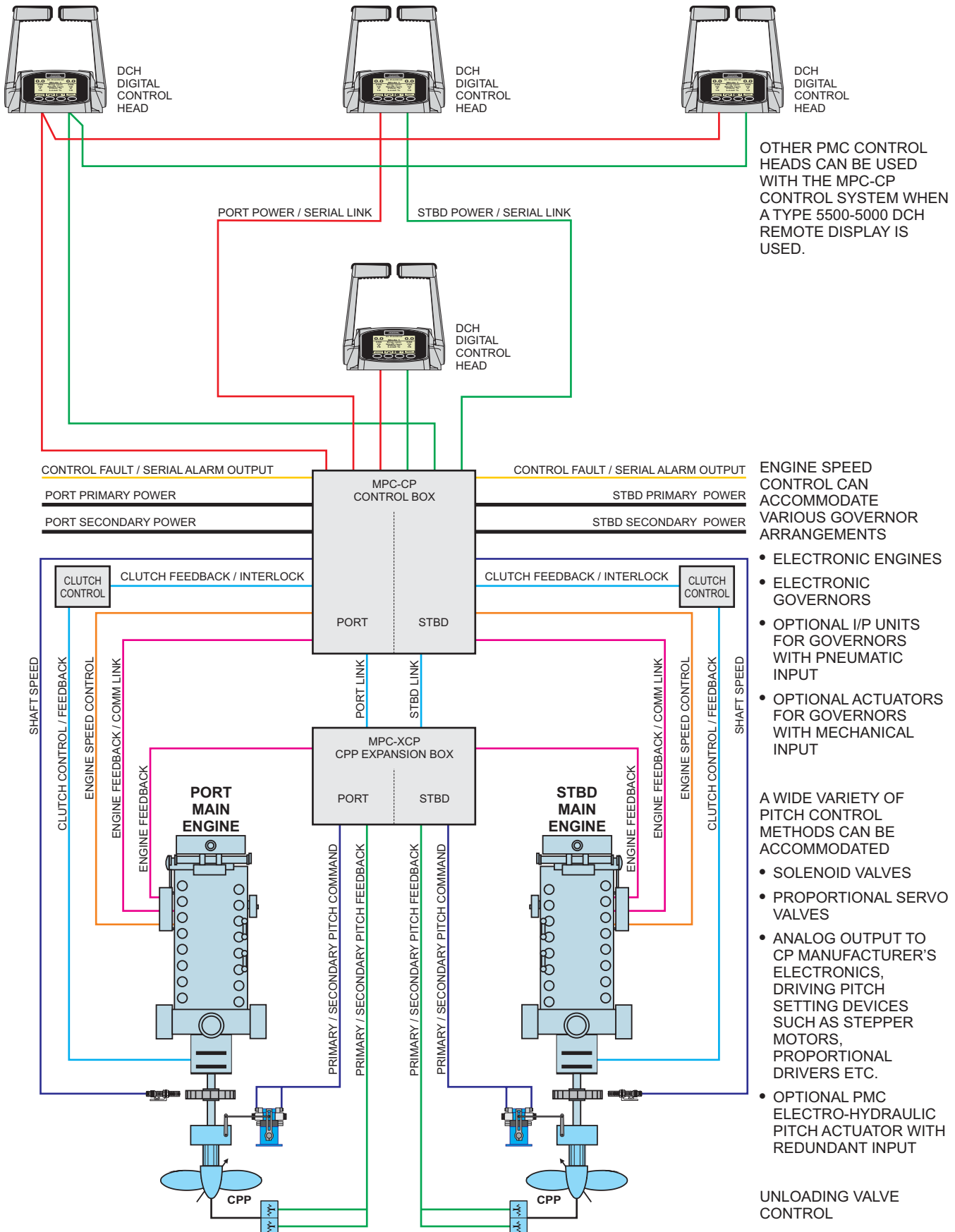
MARINE PROPULSION CONTROLS

TYPE MPC-CP DIGITAL SYSTEM
FOR VESSELS WITH CONTROLLABLE
PITCH PROPELLERS



PRIME MOVER CONTROLS INC.

SIMPLIFIED FOUR STATION CONTROL SYSTEM TYPICAL - DO NOT USE FOR CONSTRUCTION



MARINE PROPULSION CONTROL SYSTEM

The MPC-CP is designed to accommodate a wide range of propulsion control requirements from the simple to the sophisticated. It is equally suited for single or multi engine installations as well as arrangements with power take off devices such as generators and fire pumps.

Advanced programming techniques for items such as remote control, speed/power curves, load sharing, load control, servo loop characteristics, alarms and operator messages ensure a high degree of flexibility and superior performance.

The MPC-CP automatic load control for controllable pitch propellers is fast yet completely stable. Dual dynamics are implemented in installations where the propeller is anticipated to break through the surface in rough seas.

Significant reduction in exhaust smoke is achieved by incorporating turbo pressure dependent feed forward pitch and load limits with proportional dynamics.

Basic adjustments to limit engine rpm, load and pitch for single or multi engine configurations are easily accomplished using the control head display and soft keys.

OPERATING FEATURES

- Single Control Head (CH) lever for combined rpm and pitch control
- Single CH lever for combined rpm and pitch control and single CH lever for minimum rpm control
- Two CH lever for independent rpm and pitch control
- Available for single and multiple screw vessels
- Four CH lever line-up options from no restriction to various CH lever matching configurations
- Transfer lock to prevent accidental transfer to remote stations
- Two stage transfer from engine room to bridge stations
- Engine warm-up mode
- Heavy sea mode
- Constant rpm mode
- Reduced power mode
- Emergency override mode
- Controlled acceleration / deceleration
- Load control
- Multiple engine isochronous or speed droop load sharing
- Engine start block
- Clutch engage block
- Power take off clutch block
- Operating features are selectable and configurable

SAFETY FEATURES

- System accepts redundant power sources with internal switching and continuous monitoring
- Each CH lever features primary and secondary

position sensors which are continuously monitored for drift and failure

- Back-up link between the port and starboard sections of MPC-CP control box allows emergency control of both engines and propellers using only one section of the MPC-CP control box
- Diagnostic capability from MPC-CP and DCH control head / Remote Display
- Fault contact and data link to vessel alarm and monitoring system

OPTIONAL FEATURES

- The electric shaft option simulates a mechanical interconnection between the CH levers. Moving the CH lever at the station in command causes all other CH levers in the system to follow. This provides continuous alignment with the commanding CH lever position at all stations. Because all CH levers are continually aligned, control transfer between stations is smooth and “bumpless”.
- Extended low operating temperature range available for outdoor stations.

TYPE 8550-3200 MPC-CP CONTROL BOX and 8550-3220 MPC-XCP CPP EXPANSION BOX SPECIFICATIONS

Supply:

- Nominal 12 V_{DC} or 24 V_{DC}, max 9 V_{DC} to 36 V_{DC}
- Typical 325 mA @ 24 V_{DC} (per section not including connected items)

Environmental:

- Operating temperature -25 °C to +70 °C
- Storage temperature -40 °C to +85 °C
- Protection classification IP54
- Meets or exceeds marine classification and regulatory requirements for Electromagnetic Compatibility, Vibration, Temperature, Humidity and Voltage Variation

FEATURES

- Accepts up to 15 stations for Type 5500 DCH Control Heads and Electro-Mechanical Actuators
- Electrically isolated port and stbd sections within the control boxes for complete port/stbd system independence
- Connects directly to standard J1939, J1587 / 1708 and proprietary serial links for reading internal engine parameters
- Control system and engine data available to vessel alarm and monitoring system via Modbus RTU serial link
- Redundant pitch control outputs
- Redundant pitch feedback inputs
- Engine load input
- Manifold pressure (turbo) input
- Power take off generator power input

TYPE 5500 DCH DIGITAL CONTROL HEAD SPECIFICATIONS

Supply:

- Nominal 12 V_{DC} or 24 V_{DC}, max 9 V_{DC} to 36 V_{DC}
- Typical 175 mA @ 24 V_{DC}

Environmental:

- Operating temperature -5 °C to +70 °C
(Optional extended range from -25 °C to + 70 °C)
- Storage temperature -30 °C to +80 °C
- Protection classification IP66 above console, IP43 below console
- Meets or exceeds marine classification and regulatory requirements for Electromagnetic Compatibility, Vibration, Temperature, Humidity and Voltage Variation

FEATURES

- Backlit, dimmable, 160 x 160 pixel graphical LCD
- Control and machinery status display (metric or imperial) and horn in each control head
- Shaft rpm, engine rpm and pitch indication is available on each control head LCD
- Four membrane buttons with intuitive software menu in plain English
- Dedicated station transfer button
- 140° control lever travel
- Housing and control levers available in black powder coat or chrome finish
- Custom colors available
- Optional electric shaft
- Optional station in command outputs for connection to auxiliary stations

TYPE 5500-5000 DCH REMOTE DISPLAY SPECIFICATIONS

Supply:

- Nominal 12 V_{DC} or 24 V_{DC}, max 9 V_{DC} to 36 V_{DC}
- Typical 175 mA @ 24 V_{DC}

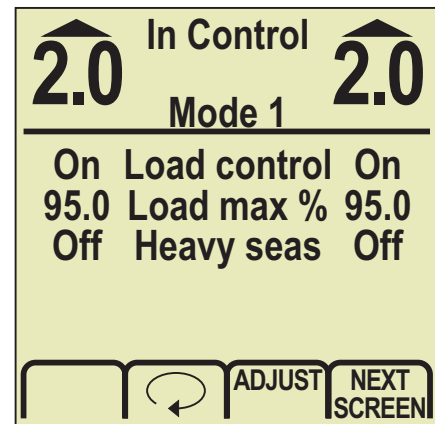
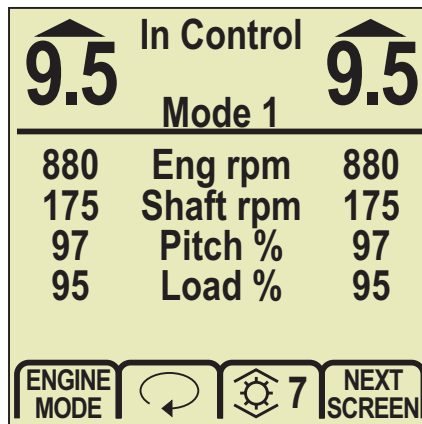
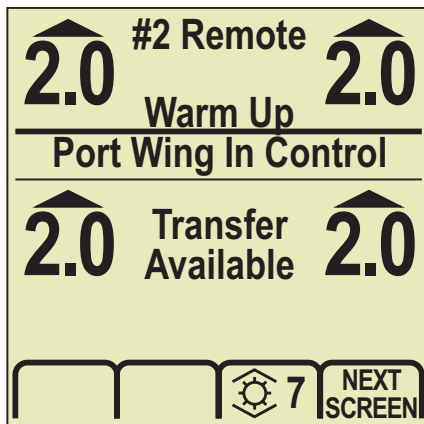
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FEATURES

- Backlit, dimmable, 160 x 160 pixel graphical LCD
- Control and machinery status display (metric or imperial) and horn in each control head
- Shaft rpm, engine rpm and pitch indication is available on each control head LCD
- Four membrane buttons with intuitive software menu in plain English
- Dedicated station transfer button
- Station in command outputs for connection to auxiliary stations
- Other PMC control heads can be used with the MPC-CP control system when a Type 5500-5000 DCH Remote Display is used

TYPICAL DCH DISPLAY SCREENS SHOWN ACTUAL SIZE

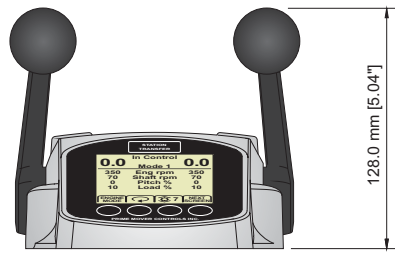


The dimmable, multi-function screen provides display of control and machinery status in imperial or metric units.

Screens can be configured to display the most basic system information or more comprehensive data.

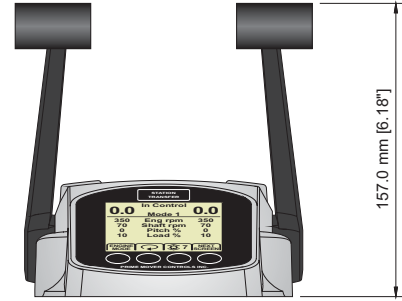
Items for display include control system displays and alarms, control lever position, transfer status, engine operating parameters available from the engine serial link, shaft rpm and propeller pitch.

OPTIONAL HANDLES FOR USE WITH DCH CONTROL HEADS SHOWN 1/4 SCALE



**Type 5500 DCH
Digital Control Head**

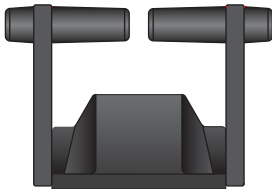
- Shown with short levers and ball knobs
- Levers available in black powder coat or chrome finish



**Type 5500 DCH
Digital Control Head**

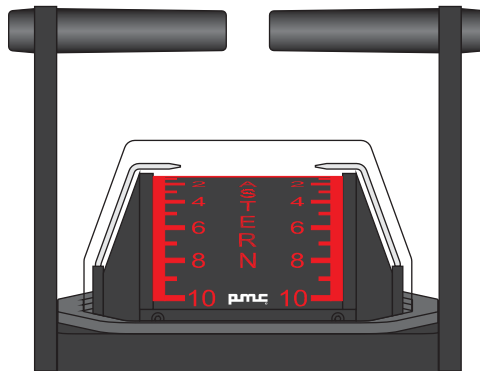
- Shown with standard length levers and short T grips
- Levers available in black powder coat or chrome finish

OPTIONAL CONTROL HEADS FOR USE WITH MPC-D SYSTEM SHOWN 1/4 SCALE



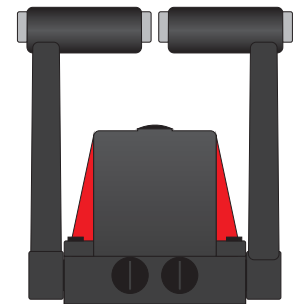
**Type 5078 SCH
Small Control Head**

- Super Compact
- Many handle options
- Black or chrome housing



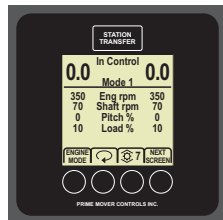
**Type 5400 PCH
Propulsion Control Head**

- Many handle options
- Back lit scales
- Optional electric shaft
- Optional integral telegraph



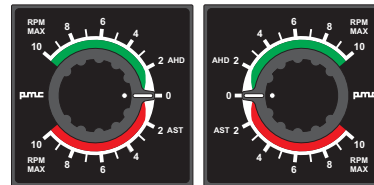
**Type 5040/5800 MCH
Remote Control Head**

- Compact
- Many handle options
- Back lit scales
- Optional electric shaft



**Type 5500-5000
DCH Remote Display**

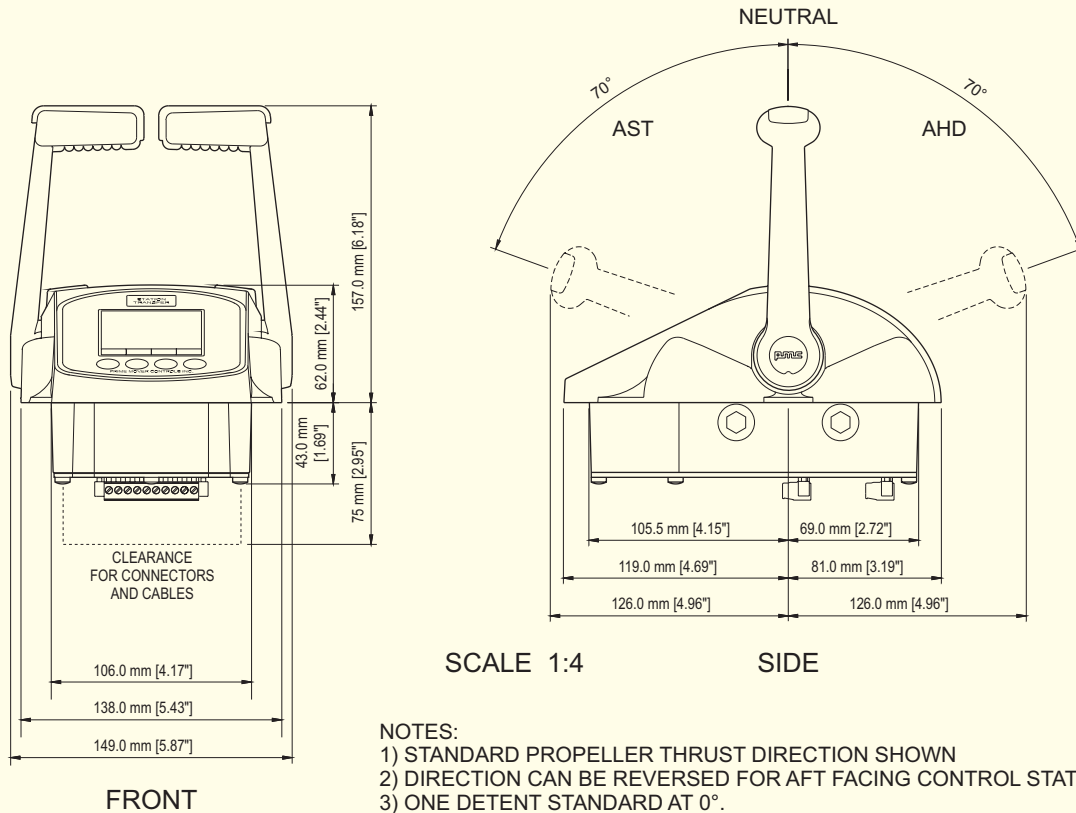
- LCD display and horn
- For use with alternate control heads
- Screen shown actual size on facing page.



**Type 5061-2000 DLH
Dial Control Heads**

- Low profile
- For use on slide out wing stations with limited height or as a backup for electronic control systems.

DIMENSIONS FOR TYPE 5500 DCH DIGITAL CONTROL HEAD

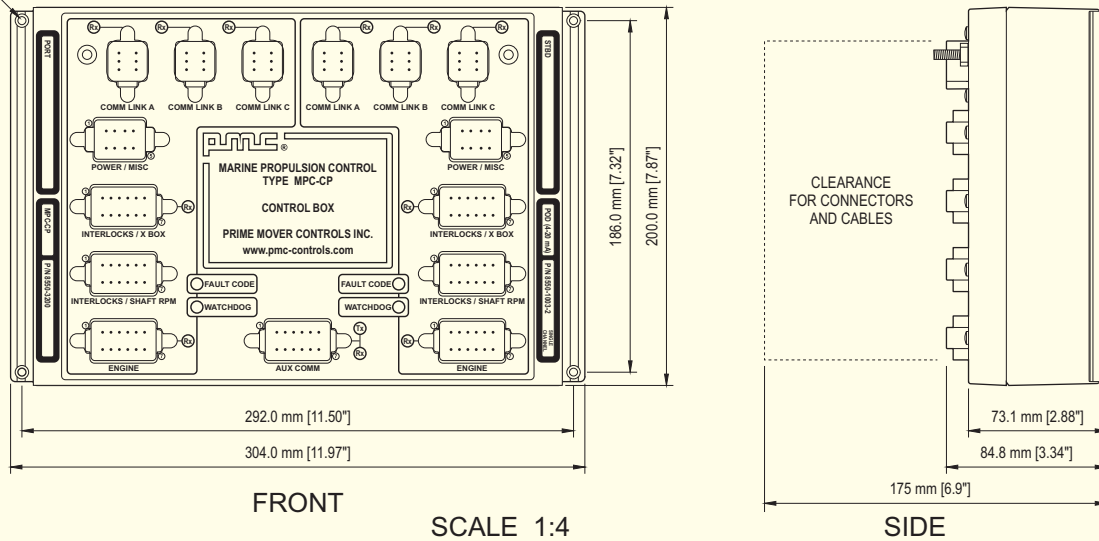


SCALE 1:4 SIDE

- NOTES:**
- 1) STANDARD PROPELLER THRUST DIRECTION SHOWN
 - 2) DIRECTION CAN BE REVERSED FOR AFT FACING CONTROL STATIONS
 - 3) ONE DETENT STANDARD AT 0°.
 - 4) THREE DETENTS OPTIONAL AT 0° AND ±14°.
 - 5) ELECTRIC SHAFT OPTION INCREASES DEPTH BELOW PANEL TO 150 mm

DIMENSIONS FOR TYPE 8550-3200 MPC-CP CONTROL BOX and TYPE 8550-3220 MPC-XCP CPP EXPANSION BOX

M4 OR #8 (4)
MOUNTING HARDWARE



SCALE 1:4 SIDE

- NOTES:**
- 1) MPC-CP SHOWN. MCP-XCP IS SAME PHYSICAL DIMENSIONS WITH DIFFERENT CONNECTORS/FRONT VIEW ARRANGEMENT.

PRIME MOVER CONTROLS INC.

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