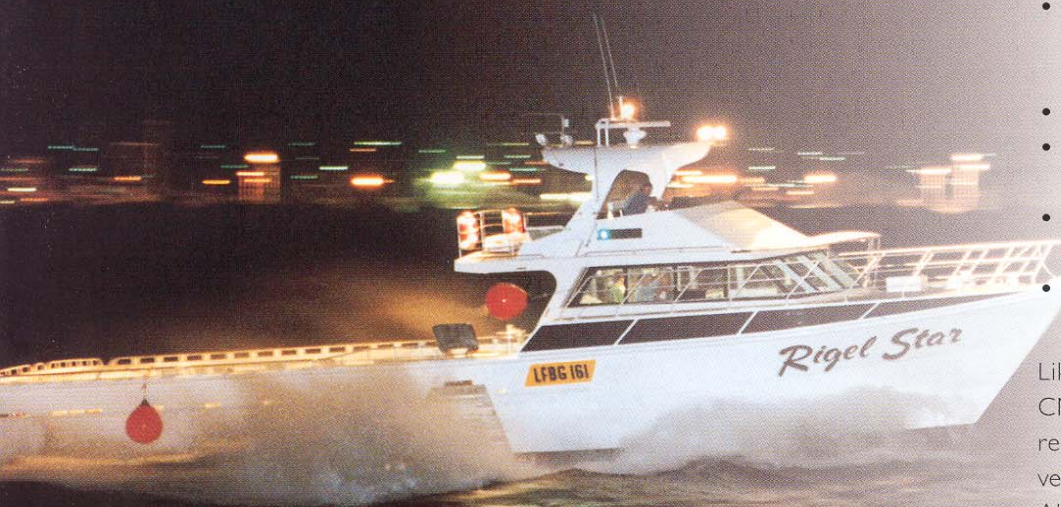




C O U R S E M A S T E R   A U T O P I L O T S

# CM650



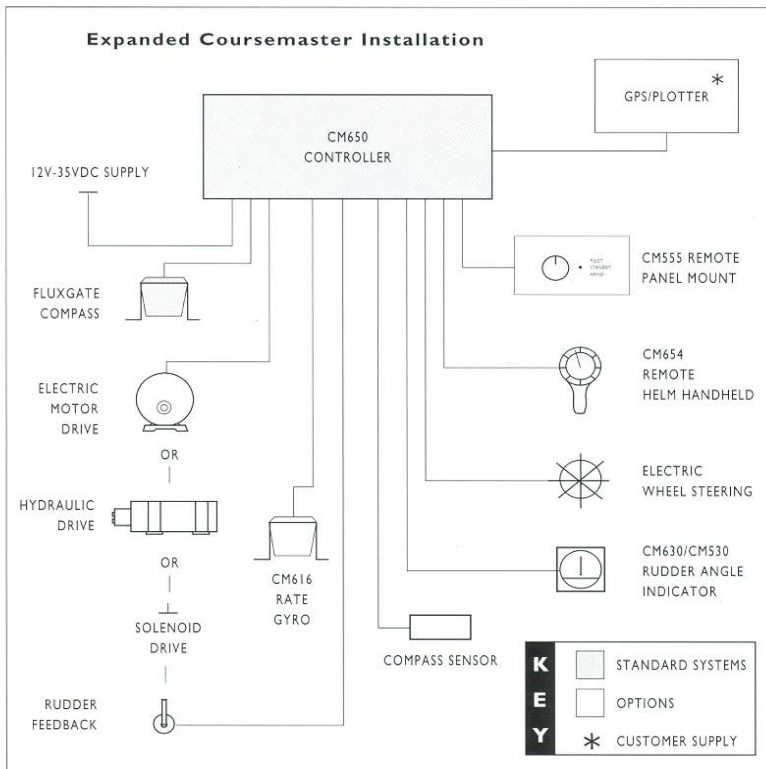
**T**he Coursemaster CM650 autopilot is designed especially for professional mariners aboard fishing boats, charter boats, ferries, tugs and other work boats – both light-displacement and heavy-displacement.

It provides all the features you need to hold course in all sea conditions, including:

- Large graphic display you can see at a glance
- Easy knob control so you don't have to take your gloves off to alter course
- Interfaces with GPS and plotters
- Four sea state settings including working mode for trawling with nets
- Automatic trim to keep course in cross winds and seas, weather helm and other offsets
- Rudder angle indicator on graphic display
- Rate gyro sensor option for more accurate steering and reduced rudder activity
- Extensive range of drive options: hydraulic, mechanical rotary and solenoid.
- Easy installation with the computer and controller in one unit.

Like all Coursemaster Autopilots, the CM650 has the same toughness and reliability which has kept commercial vessels on course for more than 20 years. All are designed and built in Australia. And all are backed by Coursemaster's 20 year reputation for superior service.





The **CM650** is simple to operate:

- Select *Standby* to turn the system on and view the vessel's heading and rudder angle on the display. Point the vessel in the direction you want to go and select *Pilot*. Your CM650 will hold that course. To change course simply turn the course knob to port or starboard.
- Select *Nav* to steer to waypoint information from a GPS or plotter. Select *Power* for power steering using the course knob.

## SPECIFICATIONS

### CM650 AUTOPILOT SYSTEM SPECIFICATIONS

INPUT VOLTAGE: 10-35 VDC  
 ENVIRONMENTAL: 0 deg. - 50 deg.C  
 STEERING SYSTEM TYPES: Hydraulic, Mechanical, Solenoid  
 POWER CONSUMPTION: Standby: 300mAmps @ 12VDC  
 Pilot - 2.5amps @ 20% duty cycle  
 Using standard Hydraulic Pump or Mechanical Motor.  
 HEADING SENSORS: Coursemaster fluxgate compass, pick off coil  
 INTERFACING: Standard NMEA 0183  
 INPUT: 2  
 OUTPUT: 1  
 ALARMS: Off course, watchkeeping, system.

### CM650 CONTROLLER

DIMENSIONS: 250mm x 80mm x 175mm  
 MOUNTING: Bracket Mount  
 INPUT VOLTAGE: 10-35 VDC  
 MOTOR DRIVE: 15A cont. 20A for 2 secs.  
 NMEA 0183: 2 Input/output.

### CM120 RUDDER FEEDBACK

DIMENSIONS: 97mm x 62mm (Arm 145mm)  
 MOUNTING: Horizontal, vertical, inverted.  
 CABLE: 9m 3 core shielded cable.

### CM417 FLUXGATE COMPASS

OUTPUT: Sine/Cosine (and NMEA 0183)  
 ACCURACY: 2 degrees RMS  
 ROLL/PITCH: +/- 45 degrees.  
 DIMENSIONS: 97mm x 55mm  
 CABLE: 8m 5 core shielded cable.

### CM555 REMOTE CONTROL

DIMENSIONS: 140mm x 90mm x 45mm  
 MOUNTING: Panel  
 CABLE: 9m - 6 core shielded cable.

### CM654 REMOTE CONTROL

DIMENSIONS: 155mm x 60mm  
 MOUNTING: Hand held  
 CABLE: 9m - 6 core shielded cable.  
 NOTE: (25.4mm = 1 inch)

### CM616 RATE GYRO

It provides a far steadier course than any autopilot using only a fluxgate compass, and completely overcomes any acceleration effects or magnetic field influences.  
 DIMENSIONS: 120mm x 115mm  
 CABLE: 8m 5 core shielded cable.

### DRIVE UNITS

**MECHANICAL STEERING**  
 A state of the art 12 or 24 volt DC printed circuit motor with integral gearbox and electro-magnetic clutch.

CM151 MECHANICAL DRIVE  
 VOLTAGE: 12 VOLT DC (avail. in 24 VDC.)  
 TYPE: Reversing, Printed Circuit  
 TORQUE: 120kg/cm @ 30RPM  
 DIMENSIONS: 165mm x 160mm

**HYDRAULIC STEERING** - A range of self-contained reversing electro-hydraulic pump kits as well as continuous running pump kits to suit various size hydraulic steering systems.

CM1212 HYDRAULIC PUMP  
 VOLTAGE: 12 VOLT DC (avail. in 24 VDC.)  
 TYPE: Reversing  
 CAPACITY: 1.2 Ltr/Min  
 DIMENSIONS: 222 mm x 120mm

CM3012 HYDRAULIC PUMP  
 VOLTAGE: 12 VOLT DC (avail. in 24 VDC.)  
 TYPE: Continuous running, Solenoid control  
 CAPACITY: 2 Ltr, Adjustable flow (other sizes available)  
 DIMENSIONS: 485mm x 205mm

**POWER STEERING** - Standard system operates with solenoid valves when fitted to vessels with power assisted steering.

### OPTIONS:

Other options are available including heavy duty rudder feedback, rudder angle indicators, electric wheel steering and remote alarm.  
 Contact your dealer for information on these other options.

*The specifications given above are correct at the time of publication. Coursemaster reserves the right to modify specifications in the interest of improving product quality.*

# COURSEMASTER AUTOPILOTS

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