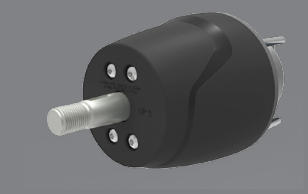
OPTIMUS EPS 5000 SERIES

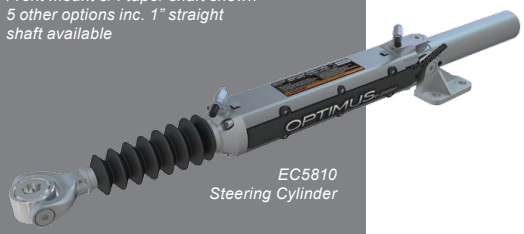
Yachts 60–100 Feet Range

APPLICATIONS

Electronic Power Steering (EPS) system suitable for vessels from 60 ft to 100 ft* with single or dual rudders.



EH1512 Electronic Helm
Front mount 3/4 taper shaft shown
5 other options inc. 1" straight shaft available

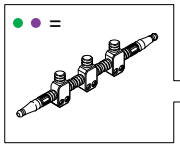


EC5810
Steering Cylinder

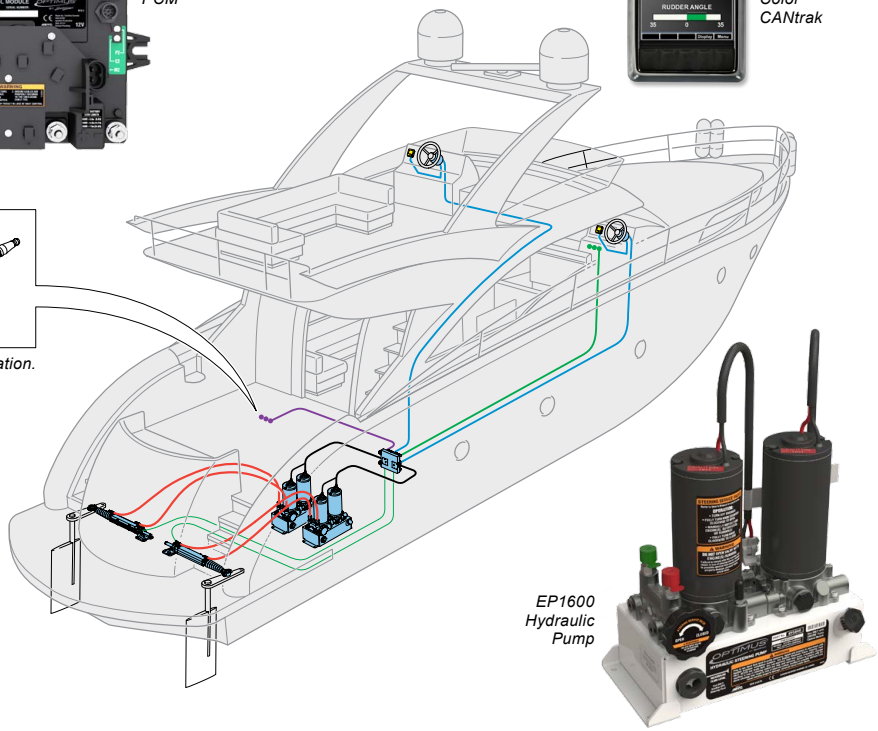
* *Subject to submission of survey form and rudder load calculation.*

EM1200
PCM

ED1700
Color
CANtrak



CAN Tee's termination.



EP1600
Hydraulic
Pump

Environmental

- Operating temperature: -18°C to +77°C [ISO 25197]
- Storage temperature: -40°C to +85°C [ISO 25197]
- Corrosion resistance: 300 hours salt spay [ASTM B117]
- Water ingress protection: IPX7 [IEC 60529]
- Random vibration: 0.0284 g^2/Hz [ABYC P-27]
- Resonant vibration: 4 G zero-peak, 20-2000 Hz [ABYC P-27]
- Mechanical shock: 50 G, 11 m-sec half-sine shape [ISO 25197]
- Ignition protection: SAEJ-1171
- Meets EN60945 electro-magnetic compatibility requirement

FEATURES

- Up to three helms stations
- Automatic battery management with sensing, warnings & best battery selection
- On demand hydraulic steering pump minimizing power consumption
- No oil at the helm
- Rugged electronics for 24 VDC applications
- Color dash display showing rudder command and rudder position graphic
- Displays system health
- Display provides system setup interface
- Communicates faults and any special handling instructions to the operator
- No requirement for tie-bars depending on rudder loads.
- Simple software updating via USB port
- Programmable number of turns lock to lock with speed
- Auto-adjusting steering end stops and resistance with speed
- Dual redundant position sensing on all moving components
- Helm offers both 3/4" taper or 1" straight shaft options
- Utilizes fault tolerant CAN network
- Full autopilot CANbus connectivity and integration. No additional pumps or sensors required
- Adjustable max rudder hard over angle with speed range 25° to 40° Center to hard over
- Rudder toe in or out up to 5° with speed
- Position proportional rudder gain for faster steering response near neutral rudder position
- RPM input: NMEA 2000, J1939 or analog pulse compatible
- Pump features an Integrated service/ bypass valve allows a limp home mode
- Meets or exceeds ABYC, ISO and SAE electrical and environmental requirements

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MOUNTING CONFIGURATIONS & SYSTEM SCHEMATIC

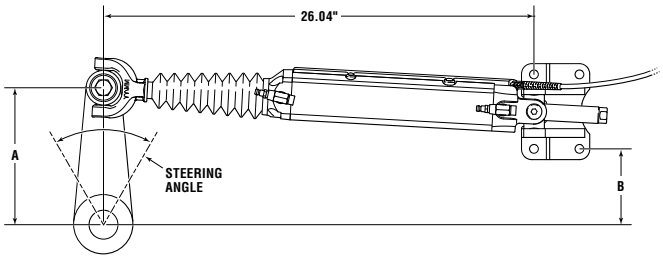
While using the table below be sure that your steering cylinder is at mid-stroke as shown in the figure right to ensure the cylinder operates correctly.

Model EC5810			
STEERING ANGLES			
50°		60°	
A	B	A	B
11.27”	7.96”	9.50”	5.98”
56,300 in-lbs*		45,400 in-lbs*	

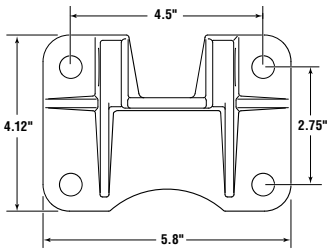
STEERING ANGLES			
70°		80°	
A	B	A	B
8.25”	4.50”	7.40”	3.41”
37,400 in-lbs*		31,200 in-lbs*	

* *Torque shown is per cylinder.*

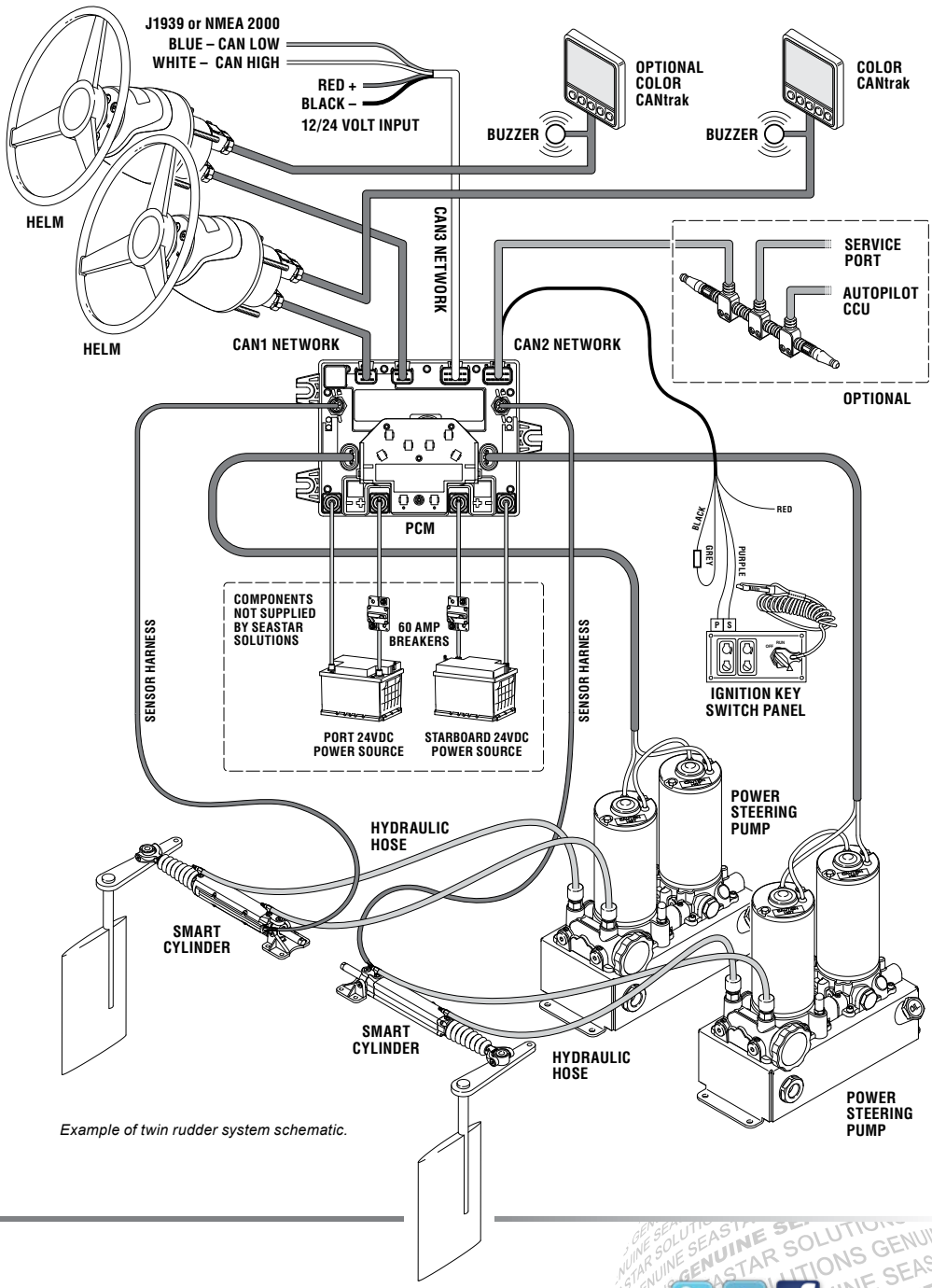
Example: two cylinders at 60° steering angle will give a combined total of 90,000 in-lbs of torque.



Cylinder at mid-stroke.



Mounting foot.



Example of twin rudder system schematic.

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