# Instructions

## FC40 Fluxgate Compass (P/N 22090245)

### RC42 Rate Compass (P/N 22090237)

#### **GENERAL**

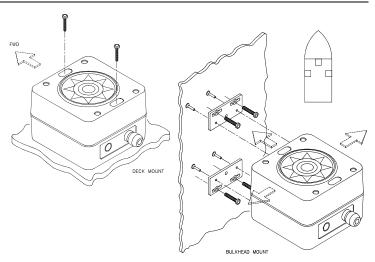
The FC40 and RC42 compasses are designed for connection to the SimNet network. They are equipped with 5,5 m (18 feet) of SimNet cable with connector. The compasses transmit the heading even if the autopilot is switched off

#### INSTALLATION

The compass can be mounted on deck or bulkhead, athwart ship or along ship. Some of the products connected to the SimNet network may have a heading offset feature. This will compensate for the mechanical offsets resulting from the selected location and orientation of the compass.

If the connected products have no offset feature, the compass must be deck or bulkhead mounted athwart ship with the cable gland pointing aft.

Select a location that provides a solid mounting place free from vibration, and as close to the vessel's centre of roll and pitch as possible, i.e. close to the water line. It should



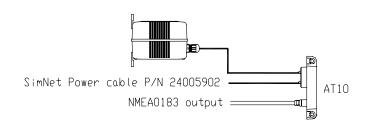
be as far as possible from disturbing magnetic interference e.g. engines (min. 2 meters), ignition cables, other large metal objects and particularly the autopilot drive unit. On steel hull boats it should be mounted 0.75-1 m above the wheel house on a non magnetic stand.

The compass face plate is the TOP. Never mount it upside down! Level the sensor as close to horizontal as possible.

Use the supplied mounting kit and drill holes through the centre of the slots.

#### **ELECTRICAL CONNECTION**

- Connect the compass to an available SimNet connector in the SimNet "backbone".
- When used as "stand alone" compass, connect an AT10 output on NMEA 0183 format, refer to drawing.



#### COMPASS CALIBRATION AND OFFSET ADJUSTMENT

There are two ways of calibrating the compass depending on type of equipment to be connected. If connected to SimNet, the calibration and offset is carried out using the autopilot or instrument calibration menu. Refer to the autopilot or instrument manual.

Calibration data is stored in the compass and is presented on the autopilot and instrument display.

If connected to AT10 for NMEA0183 output only, the calibration procedure will start automatically if two consecutive turns of 360° are made within 5 minutes after (SimNet) power is applied.

### **TECHNICAL SPECIFICATIONS**

Power consumption ......1,4 W
Calibration: ......Automatic
Repeatability: .....± 1.5 degrees
Roll/Pitch: ....± 35 degrees

Accuracy: .....± 3 degrees after calibration

SimNet Network load factor (NL): 3 SimNet ports (input/output): ..... 1

Dynamic performance:

With random excitation

of  $\pm 10^{\circ}$  at max. 1 Hz: .... FC40: Heading error  $< 5^{\circ}$ 

RC42: Heading error < 2°

With heading step input of

90° at a rate of 10°/s: .... FC40: Heading error 10 sec after turn <5°

RC42: Heading error 10 sec after turn <2°

Environmental Protection: IP56 Compass safe distance: .0.5 m (1.7')

Temperature range:

Cable supplied: ......5.5 m (18') SimNet cable with connector

Mounting: ..... Deck or bulkhead

Material: ......FC40: Black ABS, RC42: Off white ABS

Output signal: ......FC40: PGN127250, RC42: PGN127250, 127251.

NMEA compliant

#### Output on SimNet/NMEA2000 format

- Calibrated heading, transmission rate of 20 Hz when selected as heading source on SimNet, otherwise 1 Hz.
- Magnetic field data
- Error messages and status information

#### Input from SimNet:

- Heading offset
- Calibration start
- · Software upload

#### **SPARE PARTS**

22090187	FC40 Fluxgate Compass w/accessories	22081442	Installation accessories	
			Consisting of:	
22090195	RC42 Rate Compass		20104972	Mounting plate (2)
	w/accessories		44140762	Screw 3.5x25 (2)
24006363	SimNet Cable, 5.5 m (18') with Plug		44140770	Screw 30x9 (4)
			22081376	Plug (2)