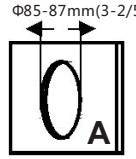
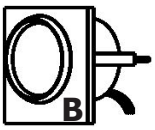
OWNER'S MANUAL

106-00068-01 ECP

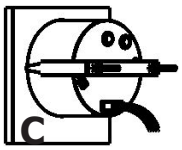


如A图，在准备安装仪表面板上开孔Φ85~87mm，
并保证面板后面有至少70mm的空间。

Pic A: Before installation , firstly ,to open a hole (Dia:85~87mm) of the panel, make sure there is a space with (70mm backyard of panel) as well

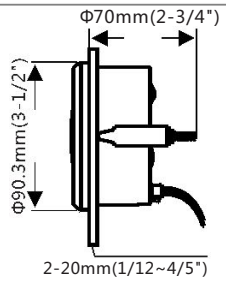


如B图，将仪表放入开好孔的仪表面板中
PicB: Put the gauge in the hole



如C图，用M4螺母和C型固定扣将仪表锁紧在仪表面板上

Pic C: Using M4 nut and C type bracket to seal up the gauge



如D图，关于外形尺寸的标注说明
Pic D: Size and annotations

技术参数：
工作电压：9~32VDC，
工作电流：≤150mA;
工作温度：-30~+75℃
存储温度：-40~+85℃。

Specification:
Operating Voltage: 9~32VDC,
Operating current: ≤150mA;
Operating temperature: -30~+75℃
Storage temperature: -40~+85℃。

GPS installation instructions/天线安装说明:

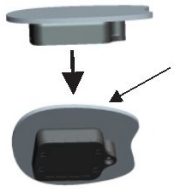
GPS天线正面安装:
Installed in front:

最好的安装方式
Best

一般安装方式
General

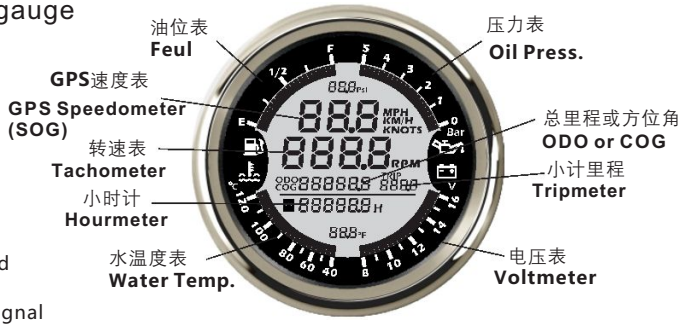
可能收不到GPS信号
Cann't receive GPS signals

GPS天线反面安装
Installed in reverse:



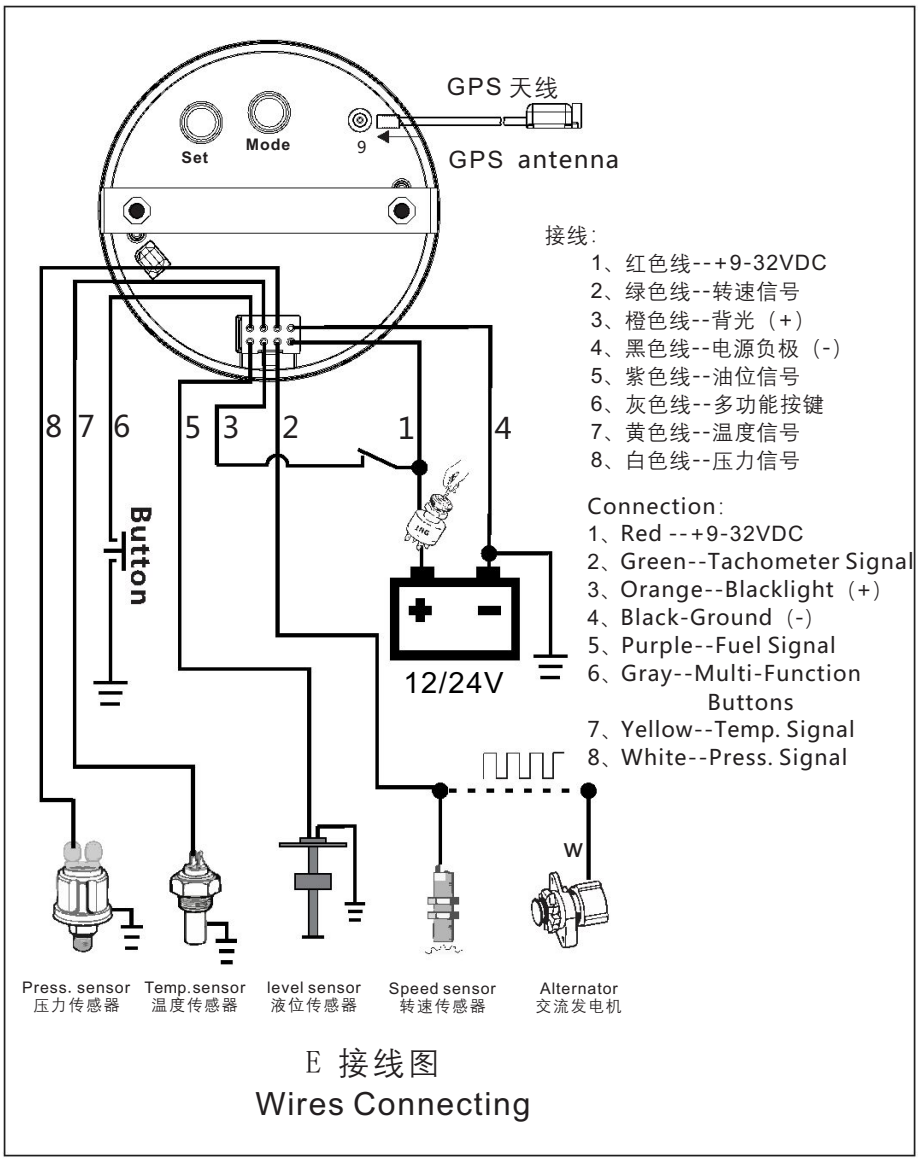
此面要求是塑胶或不能屏蔽GPS信号的材质.
this surface mateiral required plastic or can not shield GPS signal material

GPS天线反向安装
Reverse the GPS antenna installation



仪表基本说明:
1、转速表显示范围：0-9999
2、速度表显示范围：0-999
3、温度表显示范围：40-120℃(104-248)
4、压力表显示范围：0-5Bar(0-72.5Psi)或
0-10Bar(0-145Psi)
5、总里程显示范围:0-999999
6、小时计显示范围：0-99999.9
7、Trip里程显示范围：0-999.9

Multifunction Instruction:
1.Range of tacho:0~9999 RPM
2.Range of speed:0~999 km/h MPH,Knots
3.Range of water temp :40~120℃(104~248F)
4.Range of pressure :0~5bar(0~72.5psi) or 0~10bar(0~145psi)
5.Range of ODO :0~999999 km, miles, knots
6.Range of hours 0~99999.9 hours
7.Range of trip 0~999.9 km/h MPH,Knots



接线:
1、红色线--+9-32VDC
2、绿色线--转速信号
3、橙色线--背光（+）
4、黑色线--电源负极（-）
5、紫色线--油位信号
6、灰色线--多功能按键
7、黄色线--温度信号
8、白色线--压力信号

Connection:
1、Red --+9-32VDC
2、Green--Tachometer Signal
3、Orange--Blacklight（+）
4、Black-Ground（-）
5、Purple--Fuel Signal
6、Gray--Multi-Function Buttons
7、Yellow--Temp. Signal
8、White--Press. Signal

E 接线图
Wires Connecting

转速表速比调整说明:
1) 速比可调范围:1-300.
2) 如果您的传感器安装在飞轮盘上,速比值等于发动机齿轮数; 如果转速信号取自W点信号, 速比值等于电极数的一半(Poles/2)

典型速比设置参考:

舷外机	
电极数	速比
4	2
6	3
8	4
10	5
12	6

舷内机或汽油机		
气缸数	冲程	速比
4	4	2
6	4	3
8	4	4
10	4	5
12	4	6

柴油发动机	
飞轮齿轮数	速比
速比=发动机飞轮齿轮数	

表示设置速比=96

Speed ratio :
1) Range of speed ratio:1.0-300.0;
2)If your transmitter is installed on the flywheel,come from w point signal, the ratio value is equal to half electrodeplate (Poles/2). If it is the gasoline engine, the speed ratio is equal to the number of cylinders (cylinder/2).

Typical ratio setting reference:

Outboard	
poles	speed ratio
4	2
6	3
8	4
10	5
12	6

Intboard or Gas engine		
cylinder	cycle	speed ratio
4	4	2
6	4	3
8	4	4
10	4	5
12	4	6

Diesel engine	
Gear number	speed ratio
speedratio=Gearnumber	

The set speed ratio=96

GPS速度表说明:

1、参考E图连接电线，然后打开电源，仪表即可开始工作,仪表开始工作时，处于搜索信号状态，速度表会自动计数，计数到300，如果没有搜索到GPS信号，显示E01。处于搜星状态或中途GPS信号丢失速度表开始计数,计数到300,仍然没有GPS信号显示E02。

2、轻触仪表背面的Mode按键，可以实现KNOTS、MPH、KM/H单位的切换，并自动保存。

SOG: 表示对地速度-航速.
COG: 表示相对于地面位置 的移动方向，表示相对于正北顺时针方向的角度.
TRIP: 小计里程 .
ODO: 累计里程，掉电　数据不清零。

3、故障代码 : E01 表示上电时GPS搜索不到GPS信号.
: E02 表示中途GPS信号丢失。
: E03 表示仪表内部电路出现故障。

功能选择说明:

启动电源，上电全显 3秒　3秒中 蓝 绿 红 3种颜色各显1秒

参数设置说明:

1、按键功能:

a、按住Mode按键5秒，进入参数设置模式，小时计显示Y-XXX.X（Y,X代表数字）轻按(小于2秒)Set按键, Y递增0~9循环显示。

b、进入参数设置模式后，调节速比时: 长按Mode按键，XXX.X 数字递增，　松开Mode按键，再长按，XXX.X 数字递减 轻按按键 XXX.X 数字 增1或减1 。

c、对照下面表格调整到你需要的数据后，松开 Mode 和 Set按键3秒后，数据自动保存。

d、轻按(小于2秒)Mode按键，调试速度单位: MPH(默认)→Km/h→Knots。

e、举例：如调整到2-000.1表示水温表，调整到1-096.0表示转速表速比设置到96.0。

2、多功能按键说明:（灰色线连接一个不带锁开关)

a、按轻按(小于2秒)一次，改变背光颜色:
背光顺序红色(默认) →绿 →蓝 →白 →黄→ 黄绿 →橙 →紫→（自动)。
自动：设置为自动背光时熄灭2秒，然后1分钟自动切换一次背光颜色。

b、长按按键3-5秒松手 显示 单次运行时间内最大速度 速度单位 和 trip 闪烁 。
(1) 速度单位和 trip 闪烁时 长按按键3-5秒以，最大速度清零 并退出此显示模式。
(2) 速度单位和 trip 闪烁时 轻按 2次　trip 里程清零 并退出此显示模式。

c、多功能按键（灰色线)与Set按键功能相同

GPS Speedometer:

1. To install as pic.E.Power on,the gauge starts to search signal required, the speedometer count automatically. "E01" will be indicated when the value first reach 300 and the signal still couldn't be searchedAnd the GPS speedometer will keep searching and count again from zero, "E02" will be indicated when the signal still couldn't be searched when the value secondly reach 300.It is also indicated when the signal lost during working.

2.Touch the back mode button of the meter, we can switch the unit:KNOTS,MPH,KM/H and save atuomatically.
SOG : Speed Over Ground.
COG : (Course Over Ground): The moving direction relative tothe ground position,showing clockwise direction relative to the north.
TRIP : Return zero when off electricity.
ODO : Accumulated, and never return zero when off electricity.

3. Fault code: E01 indicate that is couldn't search any GPS signals whenin an energized state
: E02 indicate that it lose GPS signal .
: E03 indicates that there is a circuit problem .

Operating Manual:

Swithch on , the LCD will fully show the back light for 3 seconds, one second each for blue,green ,red.

Preferences:

1.Mode Button:

a.Press "Mode" button for 5 seconds, setup modes triggered, hourmeters part will display Y-XXX.X(Y,X is the figure),lightly press the "Set" button (Less than 2 seconds),Y will increase range 0~9,and show circularly.

b.With the setup mode,adjust the speed ratio(for tachometer part), long press the "Mode" button,XXX.X increasing ,release and again long press the "Mode" button , the figure(XXX.X) will decrease

c.Adjust the corresponding value requied,release both the "Mode" and "Set" button , the data will be save after three senconds.

d.Lightly press the "Mode" button (Less than 2 seconds), choose the speed units as you want(MPH,KNOTS,KM/H, Default is MPH)

e.Examples: If the value adjusted to 2-000.1 , it is for water temp part, if the value adjusted 1-096.0 , it said that the speed ratio is 96.0 for tachometer

2.Mutifunctional Button:(Unlocked button connected with gray wire)

a. For the backlight options Lightly press the button (Less than 2 seconds) to change the color in turn(Red->Green->Blue->White ->Yellow->Olivine->Orange->Purple->Automatic mode)
Remarks:Automotic mode: The back light will be off for 2 seconds after the gauge switched into "AUTO" mode.
And the color will change one by one per minute

b.Long press the button(3~5 seconds) then release, the LCD display the max speed and trip flicked
(1).At the same time,if long press the button(3~5 seconds), the max speed will be cleared and quit
(2).At the same time, lingtly press the button for twice, the trip will be cleared and quit.

c.The functions of multi-functional button is same as the "SET" button's

伊免压调整说明

伊免压			功能说明	备注
	Y	-XXX.X		
转速表	1	-0001.0~300.0	1.0-300.0	速比可调范围
水温表	2	-0000.0	291.4~22.4Ω	默认
	2	-0000.1	301-23へ	
	2	-0000.2~0000.9	预留	
压力表	3	-0000.0	10-184 Ω	默认
	3	-0000.1	240-33 Ω	
	3	-0000.2~0000.9	预留	
油位表	4	-0000.0	0-190Ω	默认
	4	-0000.1	0-180Ω	
	4	-0000.2	10-180Ω	
	4	-0000.3	240-33Ω	
	4	-0000.4	240-30Ω	
	4	-0000.5~0000.9	预留	
电压表	5	-0000.0	8-32V	
Trip	6	-0000.0	0-999.9	默认，数据不存储
	6	-0000.1	0-999.9	数据存储
ODO/COG	7	-0000.0	0-999999	默认 ODO 数据存储
	7	-0000.1	0-360°	显示 COG
小时计			0-99999.9H	
数据清零	8	-0000.9	ODO 数据清零	
		-0001.0	小时计数据清零	

Parameter adjustment instructions

Parameter			Instruction	Remarks
	Y	-XXX.X		
Tachometer	1	-0001.0~300.0	1.0-300.0	Range of speed ratio
Water temp	2	-0000.0	291.4~22.4Ω	Default
	2	-0000.1	301-23へ	
	2	-0000.2~0000.9	Reserved	
Press gauge	3	-0000.0	10-184 Ω	Default
	3	-0000.1	240-33 Ω	
	3	-0000.2~0000.9	Reserved	
Fuel Level Gauge	4	-0000.0	0-190Ω	Default
	4	-0000.1	0-180Ω	
	4	-0000.2	10-180Ω	
	4	-0000.3	240-33Ω	
	4	-0000.4	240-30Ω	
	4	-0000.5~0000.9	Reserved	
Voltmeter	5	-0000.0	8-32V	
Trip	6	-0000.0	0-999.9	Default□Data not saved
	6	-0000.1	0-999.9	Data saved
ODO/COG	7	-0000.0	0-999999	Default ODO Data saved
	7	-0000.1	0-360°	COG
Hourmeter			0-99999.9H	
Data cleared	8	-0000.9	ODO	Data cleared
		-0001.0	Hourmeter	Data cleared