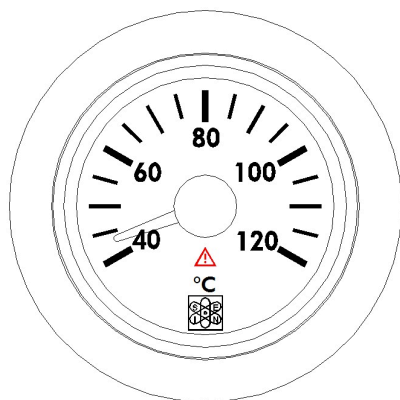




**CANBUS
LINE**



Direct Digital™ VSG 52 CAN BUS Series Gauges

SAN GIORGIO S.E.I.N.- ITALY

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PRELIMINARY

1.GENERAL DESCRIPTION

Thanks to more than 10 years of experience in the CANBUS® development and acclaimed “Direct Digital” microprocessor technology SAN GIORGIO S.E.I.N. presents as worldwide preview a new and most advanced line of instruments compatible with this powerful protocol.

Different from other competitors these new instruments, available in the 52mm standard size, can be directly connected to the CANBUS® without the need for a master unit or a converter. With only two wires + power supply it is possible to bring engine and on board systems information everywhere on board. Each instrument is equipped with an analogue input that can be used as an alternative reading of the standard sensor thus allowing to handle both digital conventional applications with one single line of products.

Thanks to the acclaimed “Direct Digital” technology that combines a powerful microprocessor with a sophisticated electronic pointer control engine, these instruments grant the accuracy and resolution of a digital system and the easy and immediate readout of an analogue gauge.

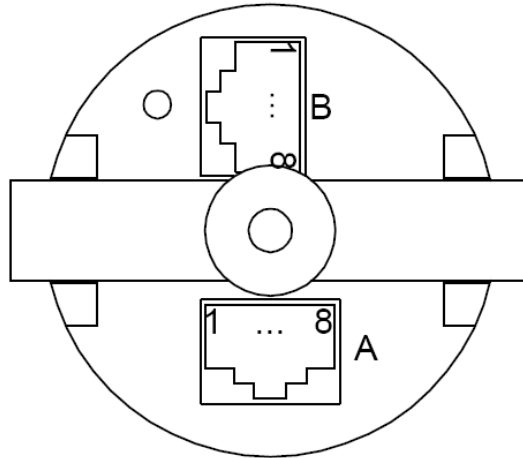
Another worldwide preview is the new LED backlight system that can change the brightness using digital CANBUS® commands, allowing a simultaneous calibration of all gauges without additional wirings : if necessary it is possible to adjust the brightness also using a traditional dimmer input.

TECHNICAL SPECIFICATIONS

Power supply	8-32 V
Power consumption	20mA min , <100mA max
Input	SAE J1939 or analogue resistive
Dial	White number on black dial or black number on white dial
Glass	Double antifog
Accuracy deviation	> ±0.5%
Connectors	2 * RJ 45

2.INSTALLATION

The CAN BUS 52mm gauge rear panel is equipped with RJ45 connectors(two in paralel) that must be connect as per the following pin out :



Pinout connector A and B

Pin	Colour	Function
1	Orange/white	CAN H
2	Orange	CAN L
3	Green/White	GND
4	Blue	+V power supply
5	Blue/White	+V power supply
6	Green	GND
7	Brown/White	Analogue input
8	Brown	+V backlight

Connect a R=120Ω if the indicator is the last of a chain

The power supply is multivoltage 10-30 V dc with a power consumption of less than 1 W .

The instrument uses high brightness led technology for life lasting light without lamp replacement. Please note that the **LIGHT connection** can accept linear voltage dimmer from 0 to 16V (12V) and from 0 to 32V (24V) allowing a gradual dimmer light effect. When the power supply exceeds 16V approximately the tachometer automatically switch lighting to 24V mode.

3.INPUT

CAN BUS INPUT

The 52 mm gauge has been developed for work with CAN BUS signal J 1939 directly and not as a slave of the tachometer , every gauge in fact has an independent microprocessor that can receive directly the CAN BUS message IDs from the ECU of the engine .

The microprocessor doesn't simply read the CAN data but can also elaborate it accordingly with the desire of the customers e.g if the ECU send the pressure value in absolute terms the gauge can elaborate it showing the real pressure value on the dial.

ANALOGUE INPUT

If the gauge microprocessor doesn't detect a CAN BUS signal (within 10s) it switch automatically in the **analogue mode** and starts to work (if present) with the traditional analogue input e.g VDO resistive .

4.ACCURACY

The DIRECT DIGITAL® technology allowed to combine in the same instrument the analogue look and the digital accuracy and reliability . With the CAN BUS input the accuracy of the gauge is 99.6 % that means a maximum error allowed lower than 1° over 240° .

5. ALARM LAMP



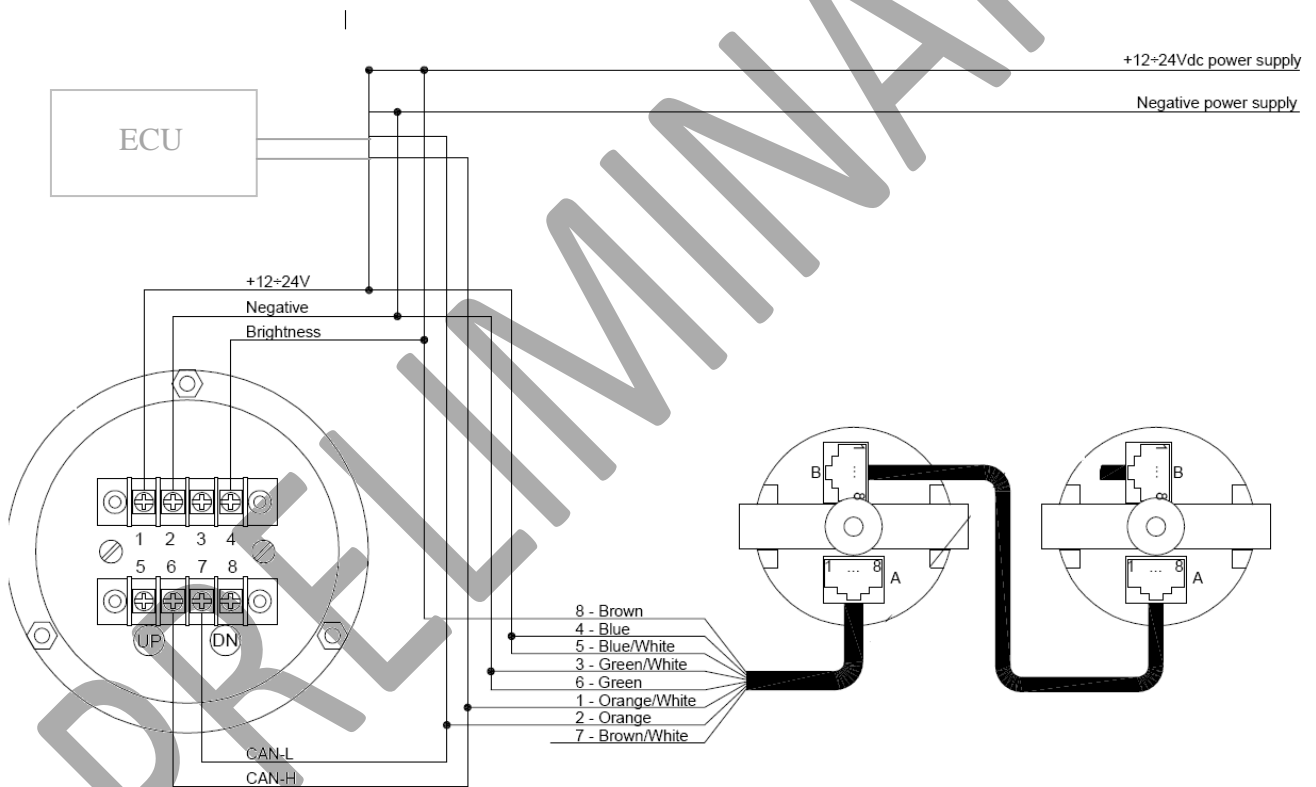
Every CAN BUS gauge 52mm , independently by the parameter it monitors , is equipped with an alarm led lamp that shows on the dial a generic graphic symbol . The lamp starts to flash accordingly with a pre-programmed threshold or receiving directly the alarm signal from the ECU.

6. TYPICAL QUICK INSTALLATION DIAGRAM

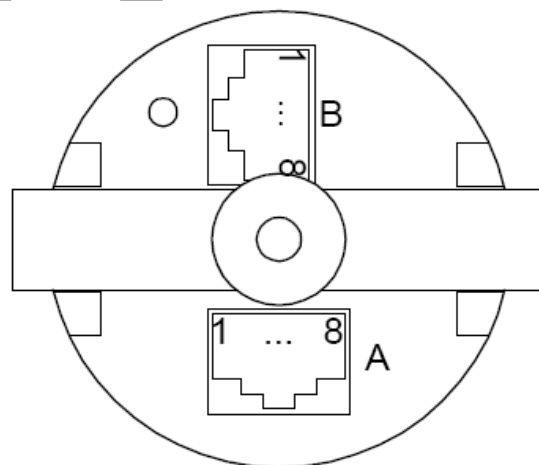
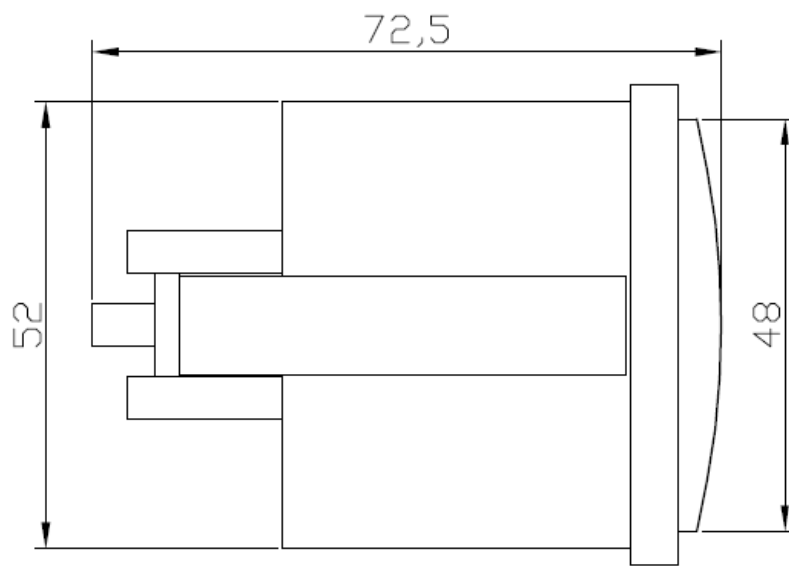
The 52mm CAN BUS gauges can be connected directly to the engine (ECU) but is possible also create a chain between the tachometer and all the 52mm gauges present . In this way the ECU can be simply connected to the tachometer while all the other 52mm gauges are connected in series with some user friendly RJ45 small harnesses provided with the gauges .

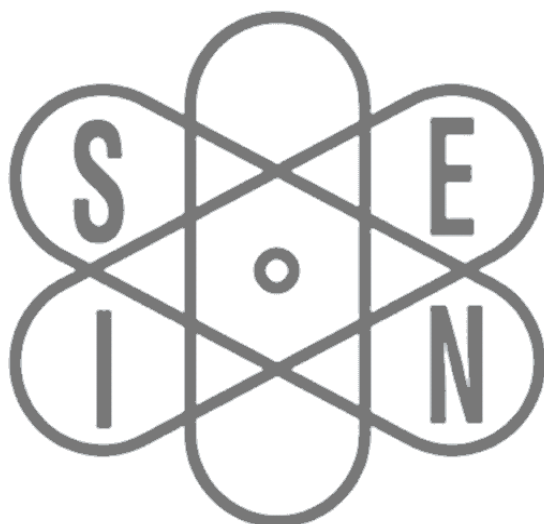
This kind of installation makes the wiring procedure easier , faster all less expensive compared with the installation necessary for the traditional analogue gauges .

Please check here below the wiring diagram :



7. TECHNICAL DRAWINGS





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