

DIVER SIGNALLING SYSTEM

FOR
UNDERWATER MESSAGE COMMUNICATION

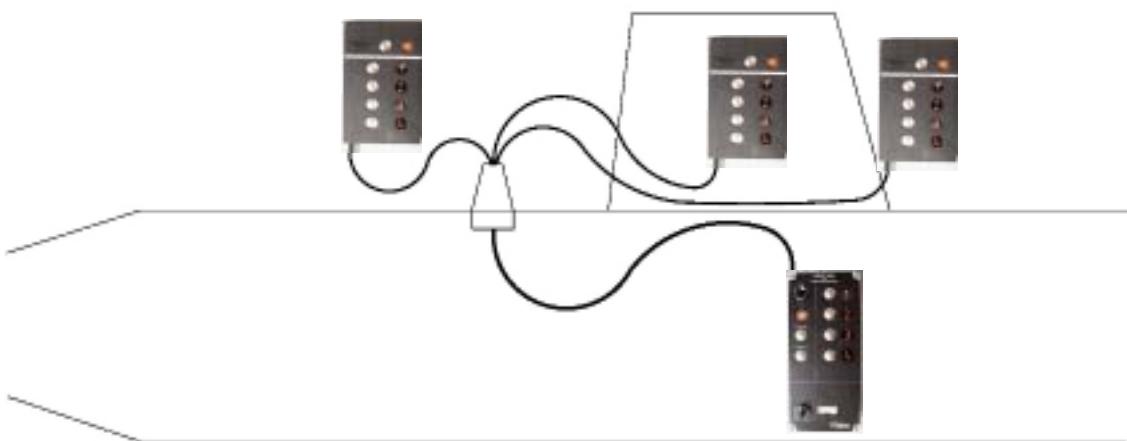


Nöjdhs
ELEKTRONIK AB

Diver Signalling System

General information

The Diver Signalling System is developed to enable exchange of messages between a submarine and divers. The system consists of one Central Unit placed inside the submarine and one or more Diver Panel Units placed outboards.



In its existing configuration the system includes a Central Unit and three Diver Panel Units connected by plugs. A single pressure hull penetrator with three outgoing cables is used.

All units have four push buttons and four lamps marked with the figures 1-4. To create a message any combination of lamps is activated by pressing the corresponding push buttons. The same lamps are then lit on all panels in the system. The lamps can be lit in any order and also by operating on any panel in the system.

To cancel a message the lamps are normally extinguished by pressing a push button in the central unit. It is also possible to cancel a message by pressing any push button on any panel in the system and holding it for 3 seconds.

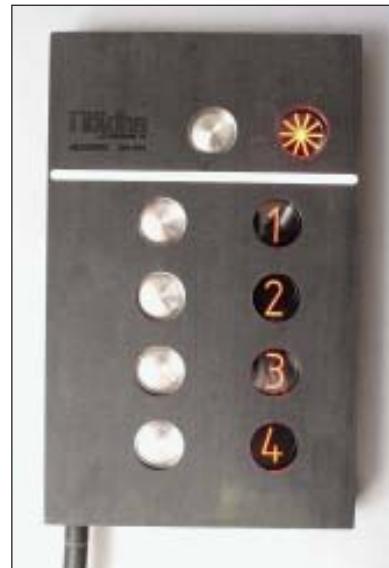
Except for the push buttons and lamps mentioned above all panels have a lamp for power on indication and a push button for lamp test.

Diver Panel Unit

The Diver Panel Unit is machined from a massive piece of POM (plastic material) where the lamps and push buttons have been mounted. The whole unit is then moulded into a solid block to make the unit water and pressure resistant. The push buttons are made with a pressure-balanced technique so that the operating pressure is totally independent of the outside pressure. All parts exposed to water are made of plastic or stainless steel. In the existing design a connector type SubConn IL10M is used for connection but other solutions could be offered.

Technical data

Dimensions	300x190x40mm (hxwxd)
Weight	3,4kg
Shock resistance	160g, 2ms
Water depth	Tested to 720m



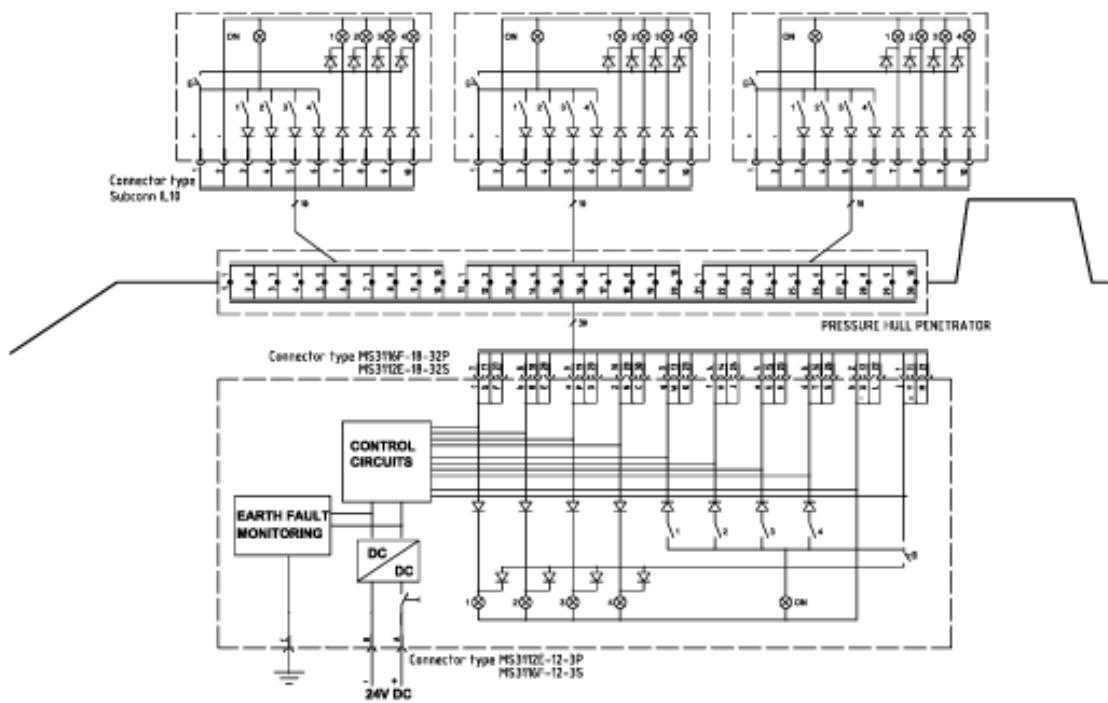
Central Unit



The Central Unit consist of an aluminium box with a panel similar to the Diver Panel Units. The system is normally powered by 24V DC but other supply voltages could be offered on request. An isolated DC/DC-converter is used to separate the system galvanically from the submarine mains, thereby eliminating the risk for an earth fault in the submarine in case of damaged cables or plugs. The Central Unit is also equipped with means for earth fault indication.

Technical data

Dimensions	372x160x120mm (hxwxd)
Weight	3,9kg
Shock resistance	15g, 20ms
Protection	IP65
Voltage	20-28V DC
Current	0,8A (3 Diver Panels, all lamps lit)



Principle diagram



Diver Panel Unit during shock tests

Part of TN DEVELOPMENT group 556278-7795



Head office address:
Norra Strandgatan 4
S-252 20 Helsingborg
Sweden
Homepage:
www.nojdhselektronik.se

Mailing address:
P.O. Box 1342
S-251 13 Helsingborg
Sweden
E-mail:
mail@nojdhselektronik.se

Phone: +46 42 381600
Fax: +46 42 136350
Vat no: SE556482987601