

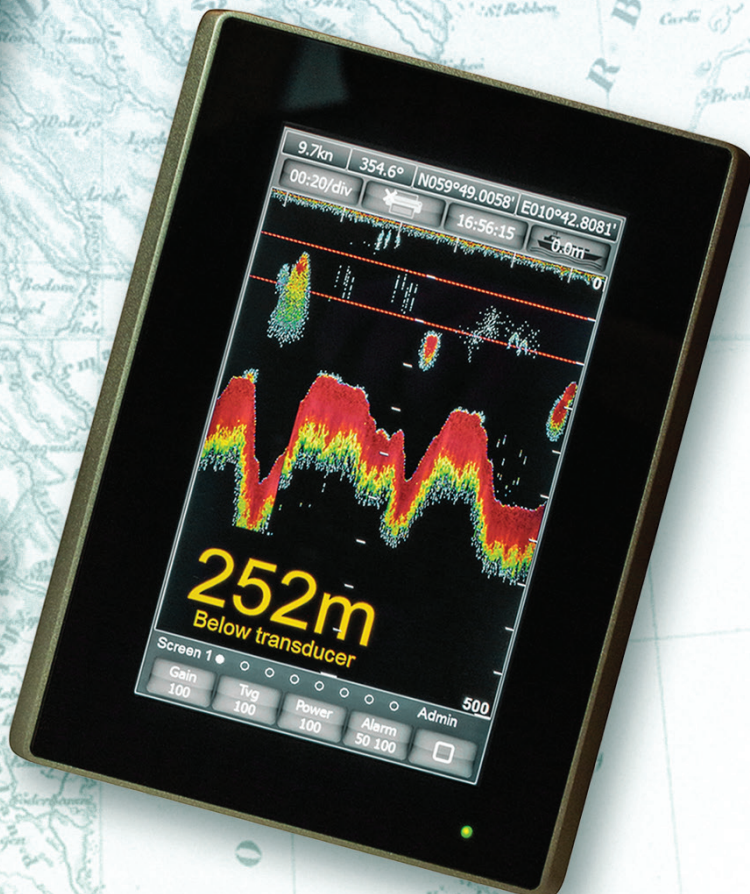


NORTHERN SOLUTIONS

hydroacoustic navigation systems



EMES60

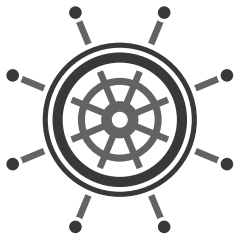


Dual navigational sensor

EMES60

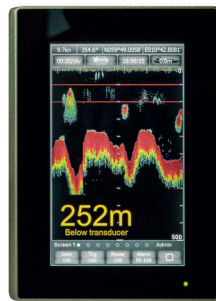
System highlights

- Only one hull penetration, which increases safety of navigation.
- Small overall diameter of the sensor (an therefore hull penetration), minimizing the risk of the mechanical damage
- Sophisticated analog and digital signal processing provides reliable output data at any navigation conditions.
- All modern and legacy IO interfaces are supported, including IEC 61162-1/2 and IEC 61162-450 (Light Weight Ethernet)
- Sound speed calibration based on the temperature provides accurate depth measurements in different conditions without manual adjustments
- Optimized parameters of the electromagnetic log operation provides accurate speed through water measurements in different waters (sea water, river water, brackish water)



SYSTEM STRUCTURE

EMES60 Echosounder and Speedlog Redundant HMI units



RS422 communication cables

Dual Universal Marine Interface unit



External equipment

RS422 communication cables

EMES Dual power supply and junction box



EMES Dual sensor with sensor cable



Sea ballvalve for single and double hull mounting

Performance		
	Echosounder	Speedlog
Accuracy	0.05m or 0.5% of depth, whatever is greater	0.1kn or 1% of speed, whatever is greater
Resolution digital out	0.01m	0.01knots
Resolution screen presentation	Depth < 100m : 0.1m Depth >=100m : 1.0m	0.1knots
Range of measured values	0.7m-400m	+/- 40 knots on all axis
Display Unit (separate unit for each sub-system)		
Resolution	800x480, 7" WVGA	
Operator interface	Touch screen, tap & swipe operation	
Communication line	RS422, Optional RS232	
Day/Night modes	Full range of backlight adjustment day/night color themes selection.	
Software upgrade means	USB line, USB flash device, Ethernet	
Supported languages	English, Norwegian, German, French, Spanish, Russian, Chinese	
Calendar, clock	Real time clock support or GPS time reference.	
Environmental	IP68, front panel only	
Cutout dimensions	137x185mm, depth 36mm	
Operating T°	-5-+60°	
Weight	0.7kg	
	Echosounder	Speedlog
Range	user adjustable: 0-10m to 0-500m, auto	-5 /+40 knots, +/-5 knots
Presentation units	meters, feet, fathoms	knots, mi/h
Alarms	Shallow and deep alarms adjustable limits	Low and high speed alarms
Dual Interface Unit (separate PCB for each sub-system)		
External communication line	NMEA0183 rev4, /IEC 61162-1/	
Analog	1 output, 10Vpp or 4-20mA, fully programmable	
Alarm relays	2 Mechanical relays, one dedicated system power failure alarm	
General purpose Input	2 digital inputs (for synchronization, slave mode), fully programmable	
General purpose Output	2 optocoupler outputs, fully programmable	
Software upgrade means	USB flash device, Ethernet	
Environmental	IP55	
Operating T°	-15-+60°	
Dimensions	200x150x150mm	
Weight	4kg	
Dual Sensor with Cable		
Cable length	30m (optional 40m)	
Communication link	IEC 61162-2, IEC 61162-1/2	
Environmental	IP68, 6 bar continuous immersion in water	
Operating T°	-5-+60°	
Sensor Dimensions	H = 124mm, D = 60.2mm	
Weight (with cable)	7kg	
Hull fitting unit (ball valve)		
Hull type	Single and double	
Body material	Stainless steel	
Pressure rating	10 bar	
Operating T°	-5-+70°	
Weight	18kg	

Höhenangaben

(nach Höringer)

Rastbühne	2,700	21 Scharfeld	5,392
Dorfbühnen	2,777	22 Rannfeld	5,560
Karstlöcher		23 Tränfeld	
Altenau		24 Rindene	
Schleifm.		25 Kästen	
Stumpfelf		26 Gassen	
Gardelfeld		27 Mästen	
Rennfeld		28 Mästen	
Kastelfeld		29 Mästen	
Rennfeld		30 Mästen	
Rennfeld		31 Mästen	
Rennfeld		32 Mästen	
Rennfeld		33 Mästen	
Rennfeld		34 Mästen	
Rennfeld		35 Mästen	
Rennfeld		36 Mästen	
Rennfeld		37 Mästen	
Rennfeld		38 Mästen	
Rennfeld		39 Mästen	
Rennfeld		40 Mästen	

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Seen und Flüsse

Moson bei Mammichau	672	Elze Fiß
Polysomum	2,004	
Torven See	2,200	
Worthaus	2,788	
Sagget See	2,000	
Stevnia	828	
Kalla See	2,550	
Lysene Quelle	2,074	
Sjöngöngen	524	
Grövelgen (Quelle d. Or. Ind. KF)	2,558	
Mälare-See	2,74	
Hielmar-See	74,0	
Western See	200,4	
Western See	110,7	
Färnand See	2,110	
Ölmannen bei Kämpinger	662	
Östman See	2,100	
Mälare See	100	
Mälare-See		

Northern Solutions AS is a young Norwegian company, established in 2013, which is based on the group of experienced and committed engineers and project managers, who have more than 20 years of experience in the field.

We've been designing and supporting the products for the merchant fleet, hydrographic market as well as for the fishery on the consultancy basis. Those products (single/dual channel and multi beam echosounders, acoustic and electromagnetic speedlogs, different kind of operator and interfacing units) have a very good reputation on the market worldwide.

Our main scope of interest is the hydroacoustic and electromagnetic instruments, including the sensors, processing units and man-machine interface for the marine equipment.

Our experience is built not only based on the design "in front of the drawing board", but also many weeks onboard different kind of vessels, ranging from a small size fishing boats up to super tankers and container ships. This allowed us listening to the opinion about the products from the very important group of customers: end-users.

Our philosophy is very simple – we would like to supply the reliable products and services at the competitive price. We always try to provide the customers with slightly more, than they expected.

Thanks to our extensive expertise and comprehensive knowledge of the market demands, we were able to implement our ideas into the innovative product – combined electromagnetic speedlog and echosounder navigation device, which is based on the single sensor (2 transducers in one).