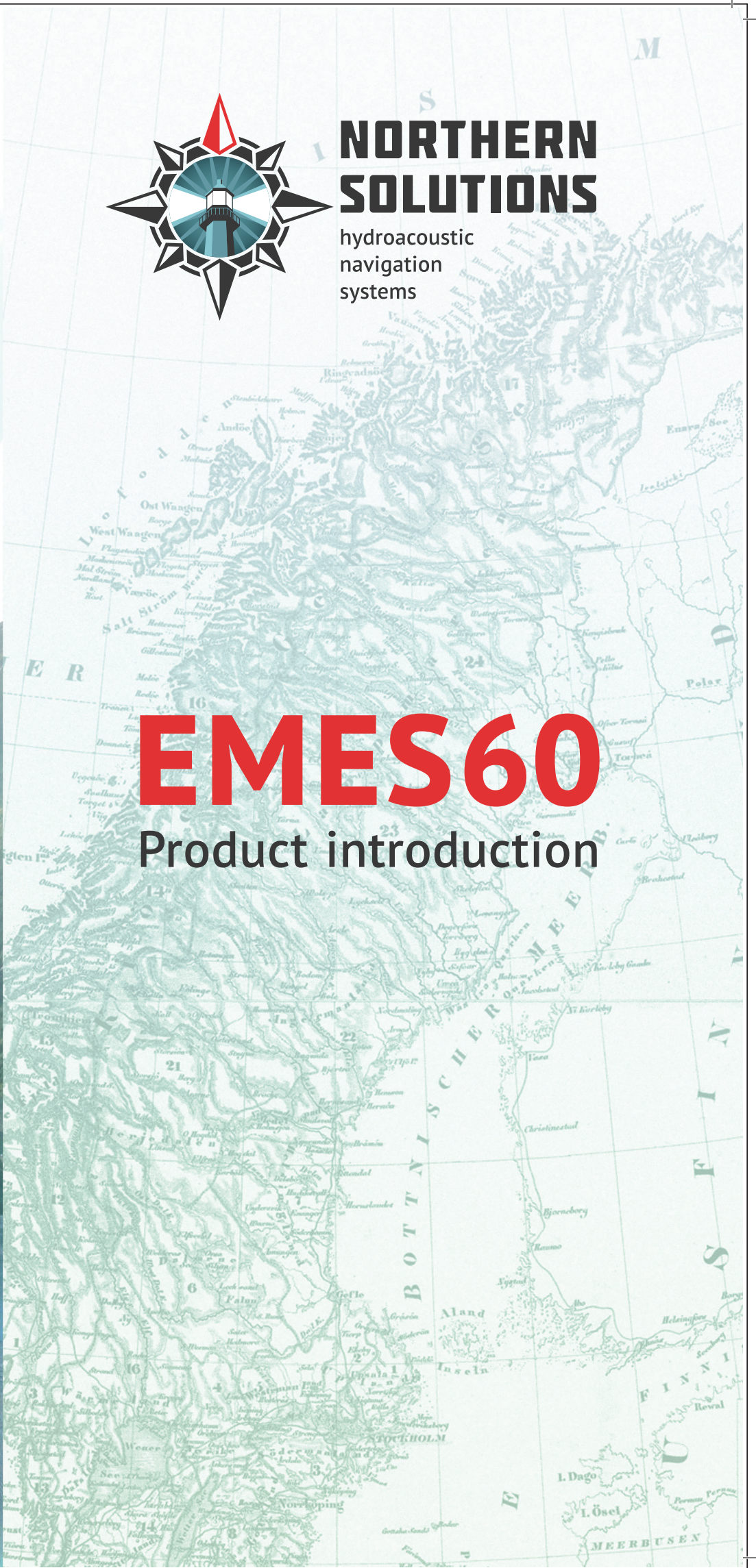


NORTHERN SOLUTIONS

hydroacoustic navigation systems

EMES60

Product introduction



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



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-500m	+/- 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/ IEC 61162-2 3inputs/3 outputs, IEC 61162-4 (Light Weight Ethernet) 2inputs/2 outputs	
Analog	2 outputs, 10Vpp or 4-20mA, fully programmable	
Alarm relays	3 Mechanical relays, one dedicated system power failure alarm	
General purpose Input	3 digital inputs (for synchronization, slave mode), fully programmable	
General purpose Output	3 optocoupler outputs, fully programmable	
Software upgrade means	USB line, USB flash device, Ethernet	
Environmental	IP64	
Operating T°	-5-+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 Hisinger)

Rastelneise	2,700	21 Sletnefjeld	5,392
Pyrgstøker	2,777	22 Rannefjeld	5,560
Juvernanes		23 Trøsfjeld	
Salomon		24 Rindane	
Slettdalen		25 Skjotten	
Vannfjeld		26 Høyen	4,880
Gardstufjeld		27 Høyfjeld	4,717
Konstfjeld		28 Høyfjeld	4,717
Jordstufjeld		29 Høyfjeld	4,717
Rorvafjeld		30 Grotstund	4,310
Konstfjeld		31 Stab. Akse	3,377
Trøsfjeld		32 Høyfjeld	4,000
Trøsfjeld		33 Høyfjeld	4,000
Trøsfjeld		34 Høyfjeld	4,000
Trøsfjeld		35 Høyfjeld	4,000
Trøsfjeld		36 Høyfjeld	4,000
Trøsfjeld		37 Høyfjeld	4,000
Trøsfjeld		38 Høyfjeld	4,000
Trøsfjeld		39 Høyfjeld	4,000
Trøsfjeld		40 Høyfjeld	4,000

NORTHERN SOLUTIONS

hydroacoustic
navigation
systems

Seen and Flüsse

Muccon bei Mucconishke	678	Langf. Fjell
Poljeveum	4,004	
Torvåi See	1,200	
Worshjau	2,788	
Sjøgat See	1,000	
Stavica	842	
Kalla See	1,310	
Ljane Quille	2,675	
Sjømyra	521	
Gravelgen (Quelle d. Ost. Dal. E. Fj.)	3,412	
Miljøer-See	2,74	
Hilvåer-See	72,0	
Blåvann See	2,000, 4	
Blåvann See	12, 7, 1	
Fjærvann See	2,110	
Olavvann bei Kjøpingsjøen	1,04	
Orsvann See	2,100	
Mjøsa See	1,00	
Waferscheide d. Lungen - d. Rinnel E. 1,570		

Northern Solutions AS is a newly established Norwegian company, 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 decided 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). The name of the product is EMES60.

We are on the final stage of the design and preparing to approval procedures and serial production in our premises 20km south of Oslo.

EMES60 will be introduced at the Europort2013 trade show in Rotterdam, November 5-8.

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