

BULKSAFE™

WATER INGRESS DETECTION FOR BULK CARRIERS

BULKSAFE™ is a fully Type Approved water ingress detection system for bulk carriers in accordance with SOLAS X11 Regulation 12, IACS UR S24, IMO performance standards & IACS UI SC180. The system comprises of a central BULKSAFE™ control and alarm panel interfacing with intrinsically safe MMS900® water level detectors.

The unique design of the MMS900® detectors allows them to be installed so that they are totally isolated from the cargo and protected from mechanical damage during cargo operations.

- TYPE APPROVED
- SIMPLE INSTALLATION
- LOW PURCHASE COST
- OVER 700 SYSTEMS INSTALLED ON BULK CARRIERS
- SIMPLE MAINTENANCE FREE OPERATION
- NO RECALIBRATION REQUIRED
- LIFETIME SENSOR CORROSION WARRANTY
- LINE MONITORING – NO FALSE ALARMS
- SIMPLE USER FRIENDLY OPERATION
- ALL SENSOR CABLING INCLUDED



SPECIFICATIONS

MMS900 LEVEL SWITCH ASSEMBLY

Material	Delrin	Bonded Cable	30m 2-core 0.75mm ² cable (longer on request)
Dimensions	Æ 75mm x 90mm	IP Rating	IP68 in accordance with IEC 60529
Weight	~500g	Warranty	Lifetime warranty against failure due to corrosion
Fixing Detail	Screws into standard 2 1/2" BSPP pipe union	Certification	Simple apparatus
Environmental	-20°C to +80°C, 0 to 100%RH	In-Situ Testing	Manual or automatic
Dust Protection	In-board inert hydrophobic filter	Filter Cleaning	Manual or automatic
Switching Output	Hermetically sealed reed type differential 3-5 mm	Test/Cleaning Port	2No. 6mm o.d. Push fit nylon fittings
Switch Setting	Normally closed, opening on alarm	Cable Monitoring	Fault alarm generated for short or open circuit
Switch Rating	0.5A/240V ac/50VA max	Accuracy	+/- 10mm
I.S. Operation	With optional Zener safety barriers		

BULKSAFE™ CONTROL PANEL

Input Capacity	24no. Mms900 level switches in 2 rows of 12 12no. Pre-alarm (0.5m) & 12no. Main alarm (2.0m)	Function Test	Manually or automatically by 'sensor test' push button and valve Control relay - 30s duration indicated by Amber 'sensor test' LED
Input Identification	User definable (12 characters) by printable label template, 2 labels supplied & copy on CD-ROM	System Alarm Test	By 'panel test' push button to test all LED's, audible alarms and relay outputs
Safety barriers	Up to 24no. Included within enclosure	Cable Monitoring	Fault alarm generated for short or open circuit
Alarm Indicators	24no. Green LED - input channel active indicator 24no. Red LED - channel alarm indicator 24no. Amber LED - channel fault alarm indicator Green mains 'power' LED, Red 'mains fail' LED, Amber 'sensor test' LED LED's flashing on new alarm, steady on accept	Environmental Data	-20°C to + 55°C, 0- 99% RH
Alarm Override	By 'override' button indicated by flashing green channel active LED	Dimensions	340mm (W) x 380mm (H) x 175mm (D)
Audible Alarm	2-tone 85db(a) @ 30cm mutable sounder for pre-alarm (0.5m level)	Material	Powder coated steel to RAL5022
Main Alarm	(2.0m), fault alarm & mains fail alarm	Fixing Detail	No. M6 fasteners, one at each corner
Alarm Relays	Pre-alarm (0.5m level), main alarm (2.0m) Common alarm (latched), mains fail (normally energized). All relays SPCO rated 5a @ 240v	Weight	8 kg
Time Delay for Alarms Detector	5s validity to switch outputs	Ingress protection	IP55
		Mains Power Supply	Selectable 110v/230v ac 50/60hz, 1a fuse
		Emergency Operation	From ship's 24v dc emergency supply with auto-changeover, 2a fuse
		Power Consumption	5w @ 24v dc
		Options	A100 alarm repeater panel, full working mimic panel
		System Manuals	CD-ROM
		Cable Entry	6no. M20 gland entries at base of cabinet
		Options	Remote alarm re-set, individual alarm relays per point, slave mimic panel

September 2000 all specifications are subject to change without prior notice

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