

IMACS

Integrated Machinery Alarm and Control **System**

HARDWARE

- · Ruggedized with marine approvals
- Commercial desktop or industrial rackmount PC enclosures
- Dimmable for bridge applications

SOFTWARE

- High resolution graphics
- Ergonomic menu system
- Control interfaces
- Active and historical alarms
- Archiving alarms, status points and configuration changes
- Password protection of configuration changes
- Advanced integration strategies

OPTIONS

- Fibre optic network
- Monitored redundant high speed network
- Touch screen/LCD monitor
- · Gateways for interfacing to virtually any other communication protocol
- Day/night screens

Integrated Machinery Alarm and Control System

RACKMOUNT MONITOR



RACKMOUNT MONITOR WITH TOUCHSCREEN OVERLAY



PRIME MOVER CONTROLS INC.

COLLECTOR

SB 8003-2000A

The PMC IMACS (Integrated Machinery, Alarm and Control System) is a technically advanced Windows NT[™] based graphical user interface. This system provides seamless integration with the PMC Omni Chief Distributed Control and Monitoring units.

The overall system provides reliable hardware and software easily configurable to suit project specific requirements such as graphical displays, automation, safety systems, trending, health monitoring, power management, fire suppression, motor control, and environmental control (HVAC).

The IMACS workstations and Omni Chief units, featuring layered redundancy with an optional dual high-speed network, function independently, without a centralized file server.



Custom software requirements are easily implemented in house at PMC. The entire vessel can be controlled and monitored with the IMACS and Omni Chief system. Isolated data links allow the IMACS to connect to virtually any type of existing or customer supplied equipment.

The IMACS can summarize and network all the data that is collected from electronic engine packages, fire alarm panels, power management systems, motor controls and environmental controls throughout the vessel.



The IMACS workstations can present custom graphical display pages that include readouts for temperature, pressure, level, flow, RPM, vibration, voltage, amperage, and machinery status. Analog inputs can be compared against a variety of independent set points such as fixed, averaging and dynamic.



Control of machinery, complete with interlocks, is provided via clickable icons located on the graphical pages. Point and click graphics allow the operator to switch from a ship-wide overview to progressively more detailed displays.



The advanced graphics provide pop-up windows for a wide variety of events

New alarms generate pop-up windows that allow the operator to view and acknowledge current alarms without leaving the present graphic page.

Critical machinery alarms generate pop-up windows detailing emergency procedures for the engineering staff to follow.



Pop-up windows are available to display additional

bwe

information including; schematics, exploded views of equipment, and 'as fitted' drawings of vessel systems.

A typical PMC IMACS system consists of various types of custom graphics screens.

Overview pages use the plan and side views of the vessel to show machinery locations and operating status.

Detailed machinery pages display analog values and operational status superimposed on actual machinery images.



Bar graph pages allow users to scan and compare all operating parameters for selected machinery in an easy to read graphical form.



Damage control pages display fire alarm, fire door, and watertight door status using plan views of each deck, as well as providing operational indication for fire



suppression and zone isolation.

Power management pages provide control and detailed information on the generator plant and



switchboard operation including breaker status.

Environmental control pages provide monitoring and control of fans, dampers, and HVAC units. Plan



views are used to display equipment locations.

Tank and bilge pages use the plan and side views of the vessel to show tank/bilge locations. Continuous level indication is displayed via bar graphs. Level alarms, and pump status are also displayed. Compensation for sloshing liquids and tank shapes as well as control of pumps and valves for fluid transfer can





be instituted.

1_2_	MAIN ENGINE LUBE OIL PRESSURE kPa			
tonit tonit	10.04.00 10.04.60	coals upof	nalati coltra	RET
200				200 10 M
				10 M
166				100
100			_	100
				_
				_
				-
	100			PRO

Graph pages show multi-pen realtime plotting of

SCREENS > MAIN 1	active ALARMS > "1	2 3 HISTORICLOG 1 2	3 DISK ARCHIVE # D
NED ME	NO 2 ROLLAND ENGINEED	ALL 1 HIS \$ HAD SHALL SHALL JIL	THE TO T WE SHOULD BE A
NOT HEATING	HE REAL PROPERTY.	NO 1 10 10 10	HO 1 12/27 23
NO 2 BE LORD OL PLIER DAY	NO 2 MELLANCEL	ACT MILLING CO.	HOLT HE LONG ON THIS PART
MO 2 ME ORCHET HINTER CONCLAMENT PRESS	too 1 mil on all marine	Anii 1 ME (ACAE) martin Ener Tel-Courte Tear seles	NOT THE PLATE AND A
MULT BE ACCESTING	the set of	NOT THE ACTIVATED	HOLE ME AND A TANKING ME
ME 2 ME INTERCOCLER HARDER	NO. J. ME INTERCOOLER WATER	ME I HE ATTROCOLER MARKED	HO I HE NUEPCOOLDE WATE
AND 2 BE FURNISH	HE HE THE CELONE	HI HITHLING	HART HART FARE CA.
NO 2 NE MANY OLD PRESS. (TURNO BOOST) PRESS.	HO 2 HE EVALUET	NO 1 KE DINALUF	HO I ME MANAGED PRESS
ACT THE CORRECT	HILL HE CONTROL FORES	ALL I BE CONTROL FORES	HO I WE DESCREED
ME I HE WHEELHOUSE DHUTTOWS	HE NO 2 HE FOR TH CONTROL CONTINUE FORMER FILLER	NO 1 16 HENOTE CONTROL CONTINUE FONET FALLING	ALL THE MAKE HOUSE
NO 3 WELLINE OF.	HO THE LOCAL CONTROL AND	ALL I MELCON CONTRACT CONTRACT POWER FAILURE	HO I HE LLER IN DATION
ALL 2 ME JACKET ANTER YOMP	NO. J. SHATLOOK	MET BANKTLOOK	NOT BE ACCEDUATE TOW
SPARE	Laws .	1 STATE	and Strate
ME 2 MONCTON DEAL	HER 2 PERCENTERS OFFICE	ALL 1 RECORTERS COM	NO 1 REDUCTION CENT
NO 2 REDUCTION NEWS	HALT I MAD LINE CO.	MARTIN RADIAL RED ON.	LOT TRESSETUAL SEAR
MED 2 Registered PPF NOT 24 STREEPINGS MICTOR PLAN	NO I RED WITH THE DR	ALL 1 BIND MOTOR HUND	HO T RED AND PP HO IS STERMINI WOTCH FOR
AND PROCESS IN PROPERTY IN CONTRACT OF STREET,	ter 1 mainer 18 stations	ALL I BAC ME INCIDENTIAL	HOT MAD NO THEOTHER
NO 2 RAD HIG PP 201 HID, CALPRING LOW	NU TRAC HAD BE ETERAND	ALL 1 FOO HID PF STEERED	HO I HAD HID FR ITS
COMPANY CONTACT	Parties.	and the second second	TARL OR COMPARISON THE STREET
NO 5 DAME COMPTON BUILD UP ALL HOME	HID AR MICHOR HINGLIGH	BALLE LEVEL HALF	Park & Talley and 1780. Micro LEVEL House
MC 3 THE YOU CH ML M LEVEL HOW	HERD OR LEVELLOW	Rectar LEVEL HEIDE	HALL & TANKAR HELDED FORT
Electrative con particular and parti	SPAPE .	ADVIDUATION CONFT	Hard A & Bassissing Street
SPARE.	57495	IPART IPART	27. (Fwit
17482	1747	ITARE IFARE	and trust

analog signals.

Annunciator pages that mimic the Omni Chief's ninety-six LED (light emitting diode) indicator displays.

System self diagnostic pages use the plan and side views of the vessel to show Omni Chief distributed hardware locations and diagnostic information including:



• network status



- processor status
- individual alarm channel status

Help pages provide the user with detailed problem solving instructions.

Individual active alarm windows from each Omni Chief collector.

Hatt	Property	Passes Mar	Tanks .		inge .	INAC	Enters & Partners	Per	
1.01	Award On Did Little Driv	TO BUILD	theme .	100	Dec	Pat			Deck 1
21 12		IL SHERE CLUSSED	1	14:43:21					Mass after the
55 11		OF BL DAD			mrsh/se	-			Back 2 Personager Back
22 22	THE COMPANY OF		:	137		t,			Read 2
21 11	COMPACTION BO			13 34 14		끐			-
ACT 41			-	13 23 51		-			Main Car Stells
1.4 40				13122164		-			Date 2 Rober Date
SL8 10	COMPRESSER BT O	CONF B? BRAR SP.		13:14:14		1			- Collector Desperative
ACT 51		MATCH OFTEN	. 1		B/12/99 B/12/99	#			- Calenter Page
20 H		Intell saits o	1 15			4			· Artes Marce
									this locker
									-
									Freed
									IMACS

Individual event log pages detail the most recent events for each Omni Chief collector.



Disk archive pages show all the events on a day by day basis from the entire alarm system and can be sorted by category, time etc.

Optional day/night alternate for each page, for easier

PRIME MOVER CONTROLS INC. 3600 GILMORE WAY, BURNABY B.C. CANADA V5G 4R8 PRODUCT_REF18003_OCIC_BUILTINSB-8003-2000AR01.CDR TEL (604) 433-4644 FAX (604) 433-5570 www.pmc-controls.com