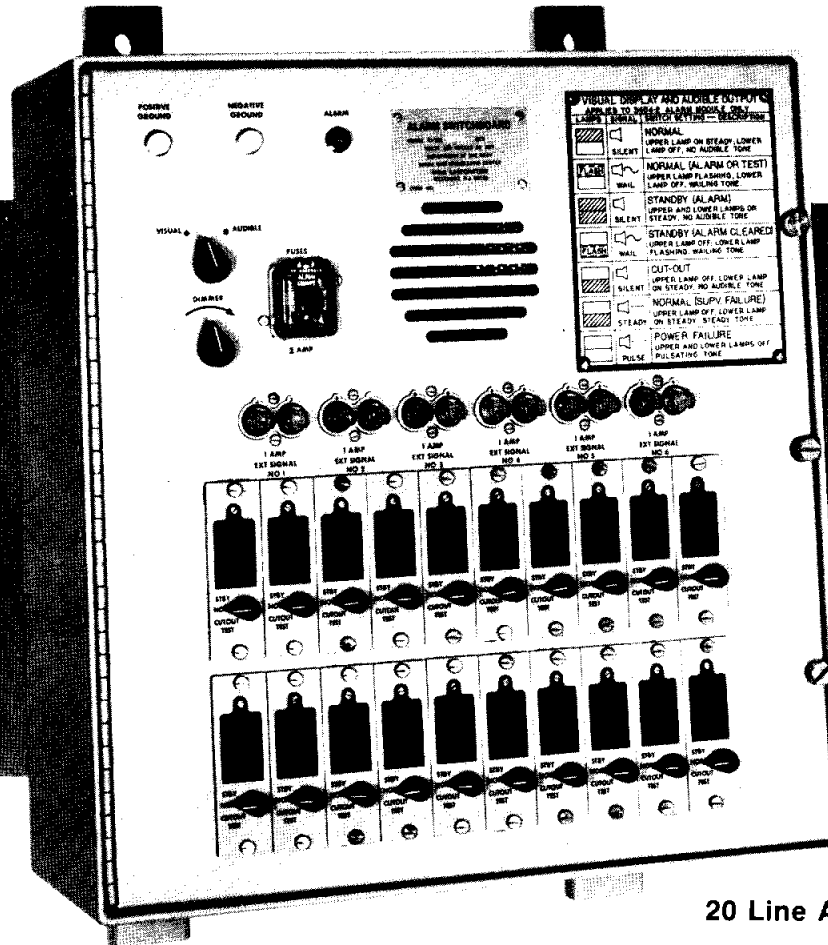


IC/SM Alarm Switchboards



20 Line Alarm Switchboard

The Wing IC/SM Alarm Switchboard provides a central point for monitoring and alarming important conditions including fire, smoke, excessive temperature, pressure and improper levels. The switchboard is connected to any combination of remote sensors and provides both visual and audible warnings of abnormal conditions.

Wing units employ solid state circuitry, conservatively applied for long life and high reliability. Modular design and careful consideration to overall alarm system objectives provide the flexibility to meet any ship requirement. Auxiliary contacts are provided to initiate corrective actions when alarm conditions exist. Wing units also include provisions for remote audible and visual indication of alarm conditions in addition to the central displays.

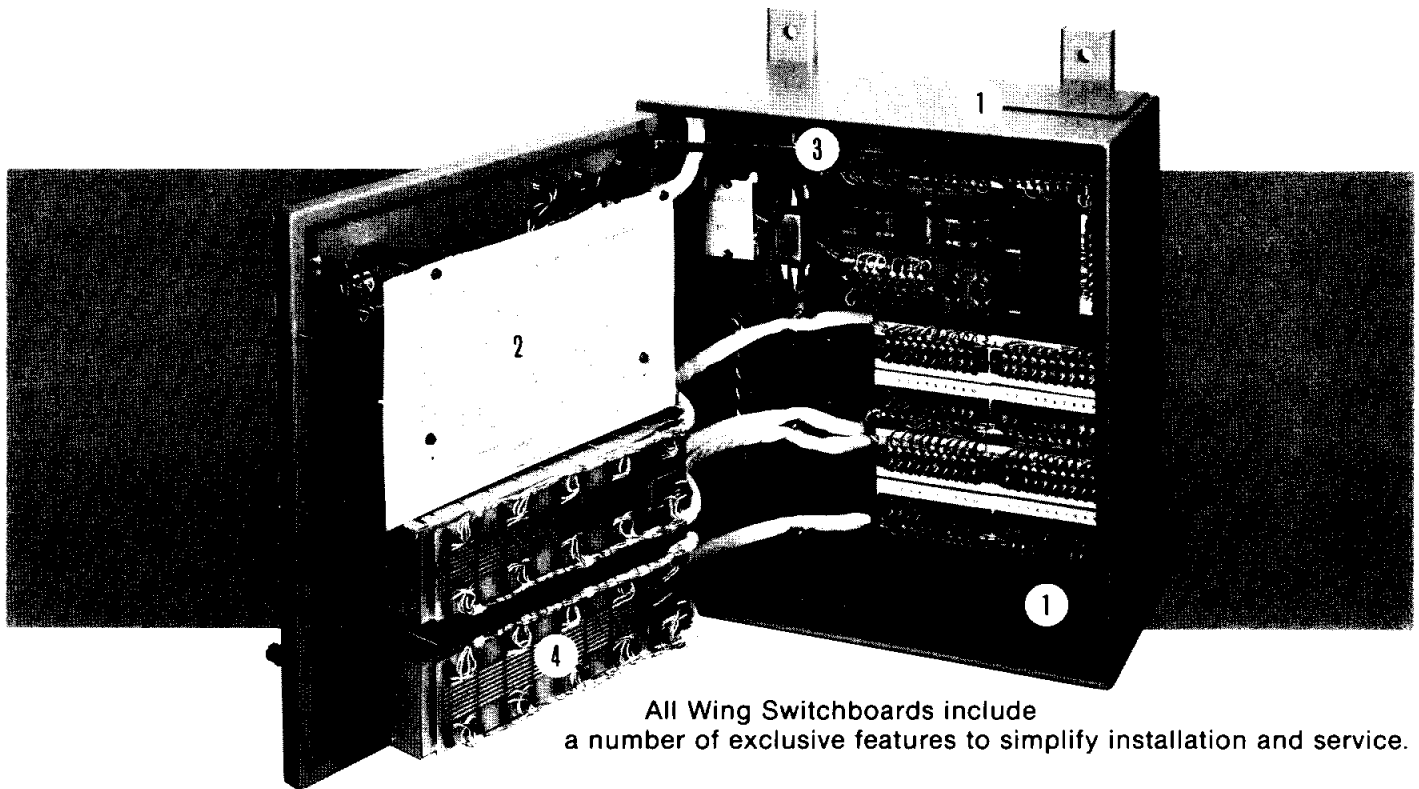
Wing Features

- Modular Design - Four to one hundred twenty lines - larger units and special configurations available.
- Aluminum Housing - Non-magnetic alloy for lower weight and increased corrosion resistance.
- Alarm Module MTBF of 288,000 Hours - Sixteen times the reliability required by NAVSHIPS 815-F-1853206 calculated in accordance with MIL-HDBK-217.
- Shock and Vibration Resistant - Meets or exceeds all applicable MIL-S-901 shock and MIL-STD-167 vibration requirements.
- Interference Protection - Meets or exceeds all applicable MIL-STD-461 and MIL-STD-462 requirements.
- Remote displays
- Audible and visual alarms
- Power failure indication

WING CORPORATION

215 Highland Avenue, Westmont, New Jersey 08108 609-854-2225

Excellence in Engineering



All Wing Switchboards include a number of exclusive features to simplify installation and service.

Wing products are manufactured and tested to the highest standards to meet and, in many cases, exceed all applicable specifications. For example, Wing switchboards will withstand temperature extremes far

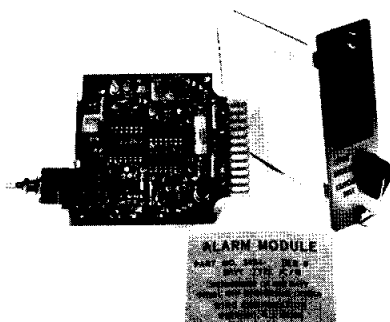
in excess of the 149°F (65°C) called for in the Navy specifications. QPL military grade components are used throughout for maximum performance and reliability.

1. Bulkhead mount enclosures include pre-cut cable entry openings covered by simple flat panels. These panels are easily removed and conveniently drilled for cable access.

2. A schematic drawing, printed on a durable plastic material, is mounted inside all bulkhead mount Wing switchboards, permitting rapid fault isolation and service without the delay of searching for a manual.

3. All bulkhead mount units include a two position door stop that securely holds the front panel open. This exclusive Wing feature provides for convenience and protection of personnel during inspection and service.

4. All wiring is neatly dressed, intelligently routed and clearly marked. Components are carefully placed for ease of access.



Wing Alarm Module

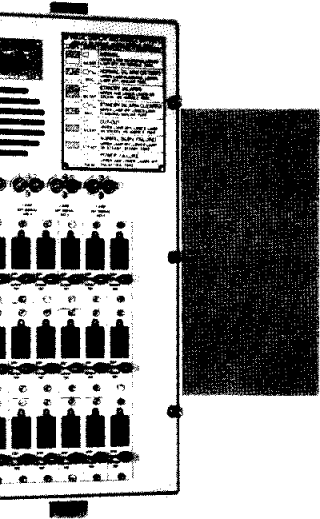
At the heart of every IC/SM switchboard is the Wing alarm module. The MTBF of this all solid state unit is an incredible 288,000 hours. The module is easily unplugged for inspection and the circuitry, shown removed from the module, is protected from accidental damage by a rugged plastic enclosure.

Instruction Panel

All bulkhead mount Wing switchboards include an instruction panel that permits ship personnel to quickly interpret alarm and test conditions without having to memorize them or refer to a manual.

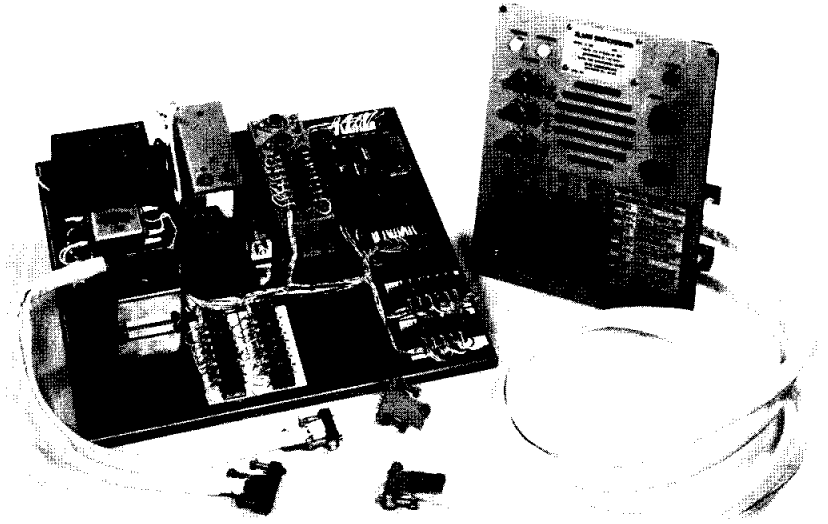
VISUAL DISPLAY AND AUDIBLE OUTPUT APPLIES TO 3454-2 ALARM MODULE ONLY			
LAMPS	SIGNAL	SWITCH SETTING	DESCRIPTION
[Diagonal lines]	[Speaker icon]	[Switch up]	NORMAL UPPER LAMP ON STEADY, LOWER LAMP OFF, NO AUDIBLE TONE
[Blank]	[Speaker icon]	[Switch down]	SILENT
[Flash]	[Speaker icon]	[Switch up]	NORMAL (ALARM OR TEST) UPPER LAMP FLASHING, LOWER LAMP OFF, WAILING TONE
[Flash]	[Speaker icon]	[Switch down]	WAIL
[Diagonal lines]	[Speaker icon]	[Switch up]	STANDBY (ALARM) UPPER AND LOWER LAMPS ON STEADY, NO AUDIBLE TONE
[Diagonal lines]	[Speaker icon]	[Switch down]	SILENT
[Flash]	[Speaker icon]	[Switch up]	STANDBY (ALARM CLEARED) UPPER LAMP OFF, LOWER LAMP FLASHING, WAILING TONE
[Flash]	[Speaker icon]	[Switch down]	WAIL
[Diagonal lines]	[Speaker icon]	[Switch up]	CUT-OUT UPPER LAMP OFF, LOWER LAMP ON STEADY, NO AUDIBLE TONE
[Diagonal lines]	[Speaker icon]	[Switch down]	SILENT
[Steady]	[Speaker icon]	[Switch up]	NORMAL (SUPV. FAILURE) UPPER LAMP OFF, LOWER LAMP ON STEADY, STEADY TONE
[Steady]	[Speaker icon]	[Switch down]	SILENT
[Pulse]	[Speaker icon]	[Switch up]	POWER FAILURE UPPER AND LOWER LAMPS OFF, PULSATING TONE
[Pulse]	[Speaker icon]	[Switch down]	SILENT

WING CORPORATION

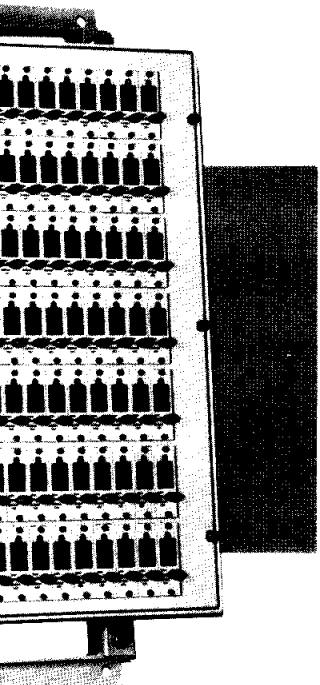


hboard

Wing Alarm Switchboards are also available in console mount configurations. The electronics modules shown on the left in the four and eight line units pictured may be remotely located from the console mount display assemblies.

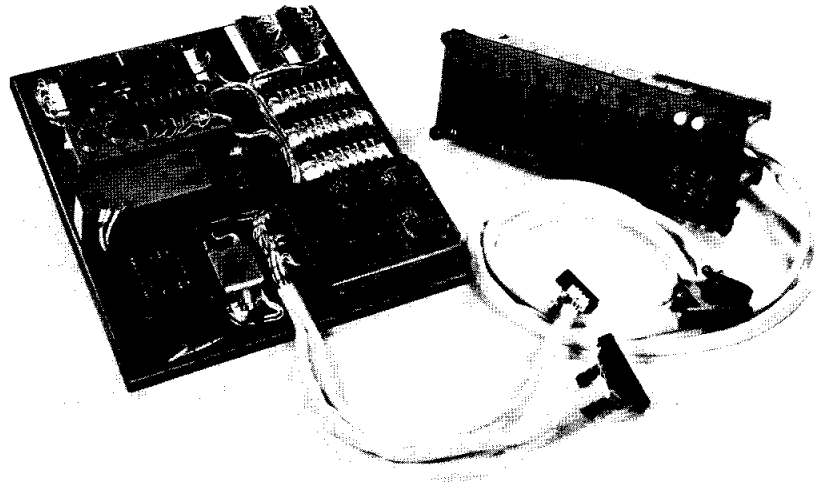


Console Mount IC/SM-4
4 Line Switchboard



oard

Larger systems are made up by using Wing Annex units. The 120 line model shown consists of a 50 line unit and a 70 line annex. Other combinations are available. Additional annex units may be added for larger systems and may be remotely located from the main unit.



Console Mount IC/SM-8
8 Line Switchboard

Specifications

Applicable Specifications

Design Specification	MIL-A-17196
Technical Manual	NAVSEA Number 0965-049-9010
Shock	MIL-S-901, Grade A, Class 1, Lightweight
Vibration	MIL-STD-167, Type 1, Vital
Electromagnetic Interference	MIL-STD-461 MIL-STD-462
Reliability	MIL-HBDK-217
Design requirements for ship-board interior equipment	MIL-I-983
Power	115 ± 6 VAC 60 ± 3 Hz 1.72 watts per input, maximum
Operating Temperature	40° to 149°F (4° to 65°C)
Storage Temperature	-40° to 167°F (-40° to 75°C)
Humidity, maximum	95%

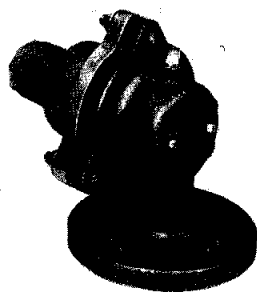
Dimensions and weights, bulkhead mount models

Model	Wing Drawing	Dimensions		Weight Pounds (Kg)
		Inches	W x H x D (Cm)	
IC/SM-4	3448-120	9.6 x 11.3 x 7.6	(24.4 x 28.7 x 19.3)	20 (9.1)
IC/SM-10	3455-210	18 x 15 x 8	(45.7 x 38.1 x 20.3)	35 (15.9)
IC/SM-20	3455-220	18 x 19.4 x 8	(45.7 x 49.2 x 20.3)	48 (21.8)
IC/SM-30	3455-230	18 x 23.8 x 8	(45.7 x 60.3 x 20.3)	62 (28.1)
IC/SM-40	3455-240	18 x 28.1 x 8	(45.7 x 71.4 x 20.3)	75 (34.0)
IC/SM-50	3455-250	18 x 32.5 x 8	(45.7 x 82.6 x 20.3)	89 (40.4)
IC/SM-60	3455-270	36 x 19.4 x 8	(91.4 x 49.2 x 20.3)	106 (48.1)
IC/SM-80	3455-280	36 x 23.8 x 8	(91.4 x 60.3 x 20.3)	134 (60.8)
IC/SM-100	3455-290	36 x 28.1 x 8	(91.4 x 71.4 x 20.3)	161 (73.0)
IC/SM-120	3455-300	36 x 32.5 x 8	(91.4 x 82.6 x 20.3)	182 (82.6)

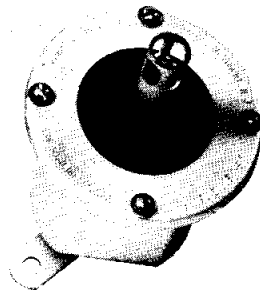
QPL List Number QPL-17196
Wing Corporation Vendor Number 97536

System Responsibility

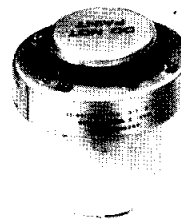
Wing Corporation manufactures a complete line of switchboards, sensors and auxiliary equipment. This full line capability puts Wing in the unique position of being able to take total system responsibility for entire installations. Wing's full line of sensors includes temperature, infra-red, rate of rise and space and duct ionization (smoke) units. Switch products include door, water and intrusion alarm relay panels.



IC/W
Water Switch



IC/J
Thermostatic Switch - Fixed

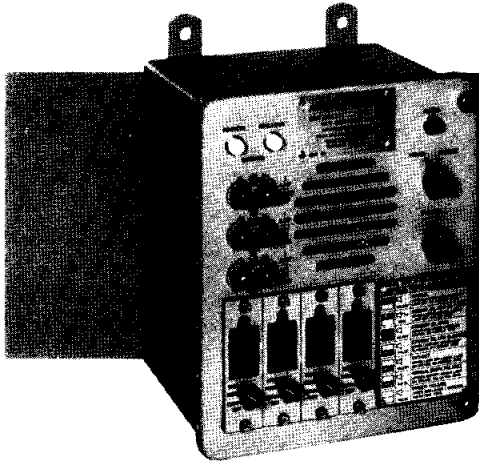


3464
Smoke Detector
Space Duct

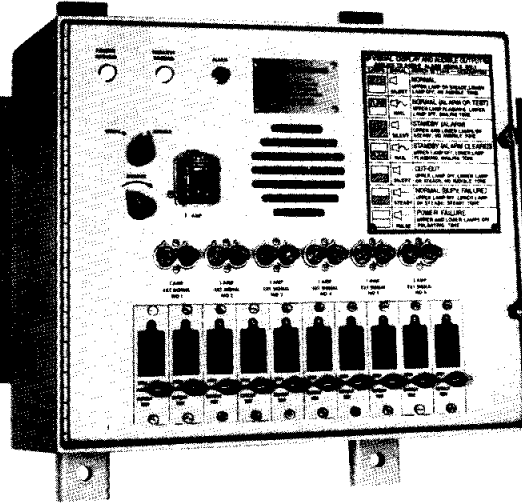




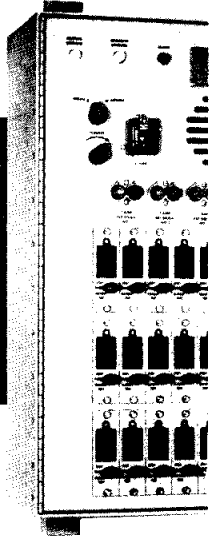
Modularity In Design



IC/SM-4
4 Line Switchboard

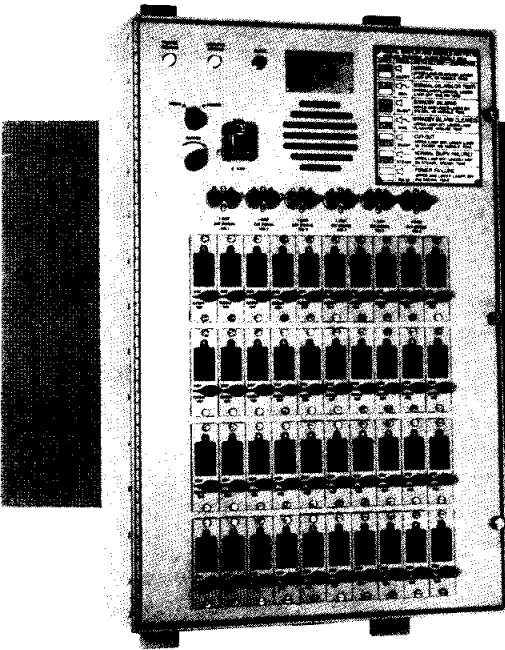


IC/SM-10
10 Line Switchboard

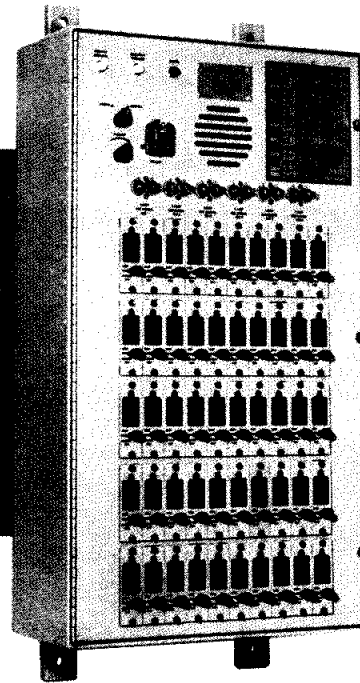


IC/SM-30
30 Line Switchboard

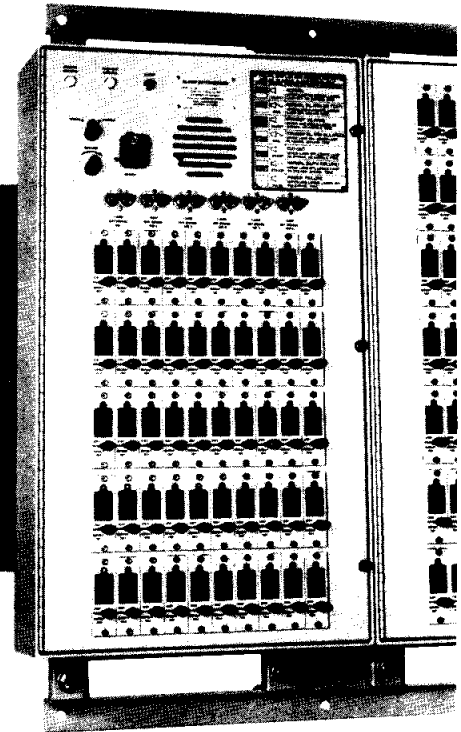
Modular design provides a flexible building block approach from four to one hundred twenty lines and beyond.



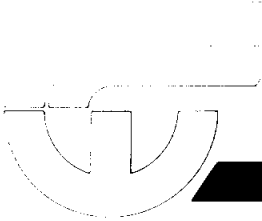
IC/SM-40
40 Line Switchboard



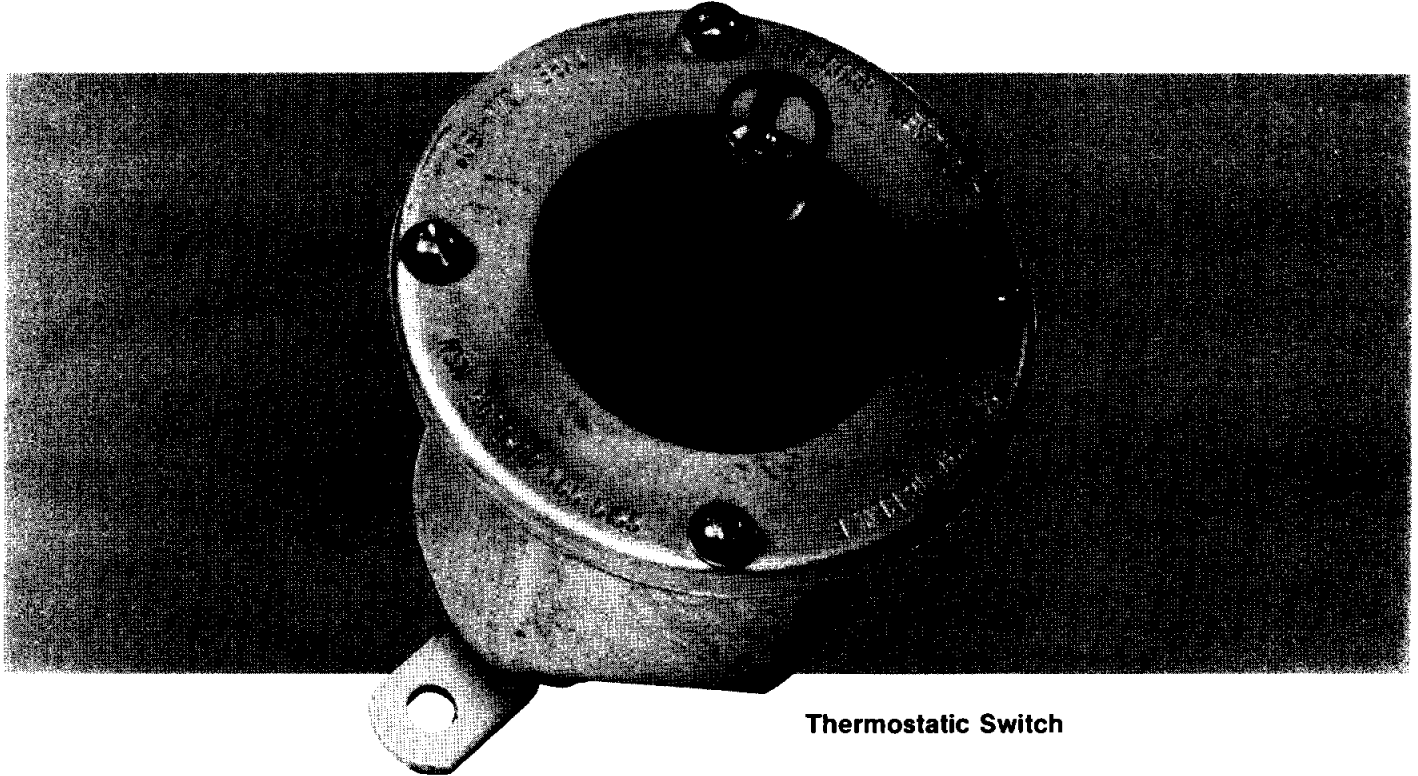
IC/SM-50
50 Line Switchboard



IC/SM-120
120 Line Switchboard



IC/J Thermostatic Switches



Thermostatic Switch

Wing IC/J thermostatic switches are used to monitor and report potentially dangerous conditions aboard ship. They are normally installed in any area where elevated temperatures may represent a hazard such as magazine areas and crew's quarters.

The Wing IC/J thermostatic switches provide a contact closure at a preset temperature. The alarm condition is normally reported to an IC/S, IC/SM or other alarm switchboard. The IC/J switches may be used in combination with each other and with other normally open contact sensors in a parallel wiring arrangement.

Temperature Selection

Wing IC/J thermostatic switches are available with 105°, 125° and 150° F as the preset temperature. The 105° model is normally selected for use in magazine areas and the 125° model for use in crew's quarters. The 150° unit is used in areas with high ambient temperatures. The units are color coded for ease in identification.

Wing Features

- Preset Temperatures - No adjustment
- Shock Resistant - Meets or exceeds all applicable MIL-S-901 requirements
- Vibration Resistant - Meets or exceeds all applicable MIL-STD-167 requirements
- Aluminum Housing - Corrosion resistant and non-magnetic
- Platinum contacts
- Alarm and supervisory contacts

WING CORPORATION

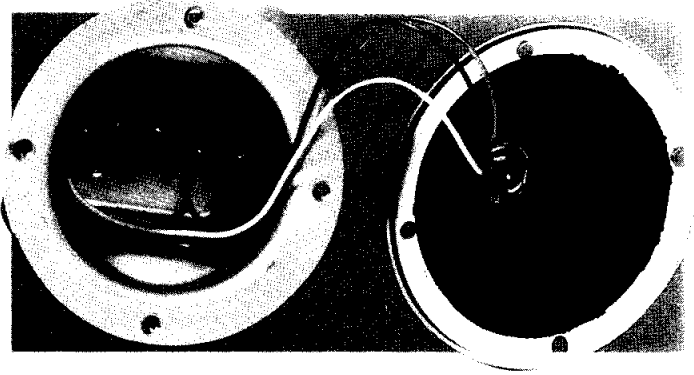
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WING WORKMANSHIP

All Wing products are manufactured and tested to the highest standards to meet and, in many cases, exceed all applicable specifications. QPL military grade components are used throughout for maximum performance and reliability.

SUPERVISORY CONTACT PROTECTION

Wing IC/J switches are mercury in glass type devices with platinum wire contacts. Three contacts are included in each switch to permit central supervision and to provide immediate indication of glass breakage. One contact is provided at the specified set point (105°, 125°, 150°F), a second 45° below the set point for supervision and a third 5° below the second. The switches are normally wired in parallel with a resistor across the end of the string so that supervision can be maintained. The resistor may be supplied with the switch.



SPECIFICATIONS

Applicable Specifications

Design Specification	MIL-S-16032
Shock	MIL-S-901, Grade A, Class 1, Lightweight
Vibration	MIL-STD-167, Type 1, Vital
Design requirements for shipboard interior equipment	MIL-I-983

Temperature Set Point	105°F ± 2°F
	125°F ± 2°F
	150°F ± 3°F

Dimensions	3-7/8" (9.8 cm) Flange diameter
	4" (10.2 cm) Overall height

Color Coding	IC/J - 105	Red
	IC/J - 125	Black
	IC/J - 150	Blue

Weight without packing	7 ounces
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Standard electrical symbol number	IC/J - 105	2805.1
	IC/J - 125	2806.1
	IC/J - 150	2807.1

National Stock Number	IC/J - 105	9N5930-00-565-5153
	IC/J - 125	9N5930-00-565-5154
	IC/J - 150	9N5930-00-565-5155

NAVSEA Drawing Number	815-1197118
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QPL List Number QPL-16032
Wing Corporation Vendor Number 97536

SYSTEM RESPONSIBILITY

Wing Corporation manufactures a complete line of switchboards, sensors and auxiliary equipment. This full line capability puts Wing in the unique position of being able to take total system responsibility for entire installations. The Wing switchboard line includes IC/S and IC/SM models. The sensor line includes infra-red, rate of rise and space and duct ionization (smoke) units. Switch products include door, water and intrusion alarm relay panels.

WING CORPORATION

Wing Corporation has been manufacturing sensors, alarm panels and switchboards since 1953, longer than any other supplier in the United States. Our products have been installed on every Navy ship built in the last twenty-five years. In addition to our manufacturing capabilities, we have an engineering staff that has undertaken many special projects and custom designs for the Navy.

WING CORPORATION

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