

Company Profile

Guangzhou Sinocon Automation Institute is a technical enterprise devoting in ship automation instrumentations' design、 manufacture and sales, the company is founded in 1999 and is identified as a high-tech enterprise by Guangzhou Science and Technology Commission in 2000.

After ten years of unremitting efforts, we have developed a dozen of independent property rights products such as the vessel monitoring and alarm device(cargo hold、 cabin and diesel engine monitoring)、 host(tail shaft) tachometer、 autopilot、 navigation light controller、 16-channel alarm、 16-channel patrol instrument and rudder angle indicator, which have been equipped in hundreds of domestic and overseas ships.

This institute is located in Tianhe District, Guangzhou with convenient transportation, welcome old and new friends of the shipbuilding industry to guide our work for cooperation and development.

Our goal is to provide high-quality、 reliable and economical marine products for customers, breaking the domination of foreign products in the field of navigation、 monitoring and automatic controlling.



D2210/D2210A/D2210B/2210 D 16 (24)-Channels Alarm

The alarm controlled by SCM can monitor the working status of 16(24)-channel switches' alarming points, with compact design、reliable operation and flexible installation, the system can be used in vessel cargo hold、engine room、diesel、steering gear、generator and fire alarms.

For small and medium-sized ship, live and remote display can be realized by one host and 1-2 slave machines, for example to display engine alarm in drive room and chief engineer room, it only needs 4 lines to connect host and slave machines(2 power supply lines, 2 communication lines). The displaying status and function of the two machines are completely the same.

Main Features and Functions:

1. The alarm points can be normally open or normally closed contact.
2. The delay time of alarming can be set to 0-4s according to your needs.
3. The indicating light flashes when alarm is on and rests when it's answered, while the alarming signal removes the light turns off.
4. Have the function of testing、dimming、horn reset and can be controlled remotely.
5. Be able to exchange data with remote computer by RS-485 COM, 1-2 slave computers are also allowed to be linked.
6. When 1-16 alarming points works, it accordingly outputs a voltage signal of DC24V and the current no bigger than 30mA, which is used to control exterior equipments. This alarm has only 8 output terminals, when the outputs is more than 8, another terminal should be added by the OR Gate.
7. D2210B is mainly used in watertight door alarming, singular number is red light(left), double number is green light(right), when the red light works the device alarms(the door is open), otherwise the alarm rests(the door is closed).
8. D2210D-24 channel alarm
 - 8.1 Channel of the alarm is 24.
 - 8.2 D2210D alarm has two COM ports, one is linked to D2210D slave machine, and the other is linked to a computer (touching screen).
 - 8.3 Three types:
 - D2210D-24-BJ is used for various kinds of alarming;
 - D2210D-24-BJ is used for steering gear's showing alarm, 1-2 channels indicate the working status of left and right bumps, 3-4 channels show the steering position, 5-24 channels are used for steering gear's alarming, COM outputs comply with NMEA0183;
 - D2210D-24-CJ is used for data collecting, without flashing and alarming functions.
 - 8.4 The COM outputs comply with standard MODBUS and NMEA0183.
 - 8.5 Output is 12-channel (24V/50mA), which can be set by software accordance with any input channel.

Product Specifications:



D2210-16 Façade



D2210-16 Back



D2210A-16 Façade



D2210A-16 Back



D2210B-16 Façade



D2210B-16 Back



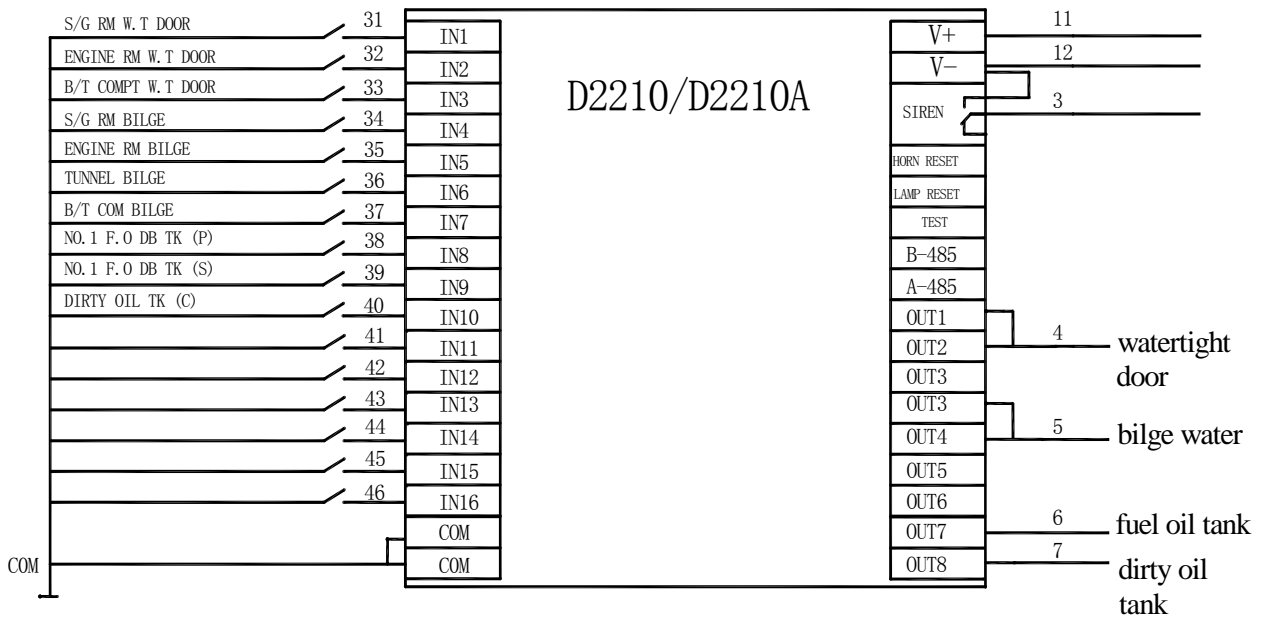
D2210D-24 Façade



D2210D-24 Back

Outline Dimension: $144 \times 144 \times 60\text{mm}^3$, Hole Dimension: $139 \times 139 \text{mm}^2$
 The overall dimensions and panel allocation of two machines are completely the same.

Wiring diagram:



CDZ9903 Tachometer

Main Features and Functions:

The tachometer adopts non-contacting sensor while the measurement precision is 1%, biggest measurement frequency is 5KHZ, and power supply is DC24V. CDZ9903A is used to measure the one-way speed while CDZ9903B is used to measure double-way speed, CDZ9903B-m measures the double-way speed by magnetic sensors. The tachometer is composed of sensors、 speed detector、 speed gear and indicator, which is mainly used to measure rotational speed in various diesel、 shaft、 generators and electronic motors. CDZ9903A tachometer can also be used as a rotational speed relay for some equipment.

CDZ9903A model mostly outputs 4 kinds of rotational speed control signals. CDZ9903B model outputs 2 kinds of rotational speed control signals at most (passive contact). Rotational speed can be set artificially.

Note: the diameter of tail shaft should be informed when it's used for measuring the rotational speed.

1. Working temperature: -10- +55°C
2. Range of measurement: 20--30000r/min (maximum number of input pulse \leq 300000/min)
3. Measuring precision: 1-1.5%
4. Over speed alarming: according to customers' needs (most 4 points in one-way, 2 points in double-way).
5. Power supply: DC24V(15%)
6. Power consumption: <0.5W
7. Positive or negative rotational identification: left side denotes negative rotation (red), right side denotes positive rotation (green).
8. Output: $\pm 5V(I_{max} \geq 30mA)$ 、 $\pm 10V(I_{max} \geq 30mA)$ 、 $\pm 1-30mA$ 、4-20mA

Note: CDZ9903B-m should be adopted if the diameter of the shaft is larger than 300mm, at this time the sensor is magnetic, which means saving speed gear, only one sensor is needed and the cost is lower, it is very suitable for large junk.

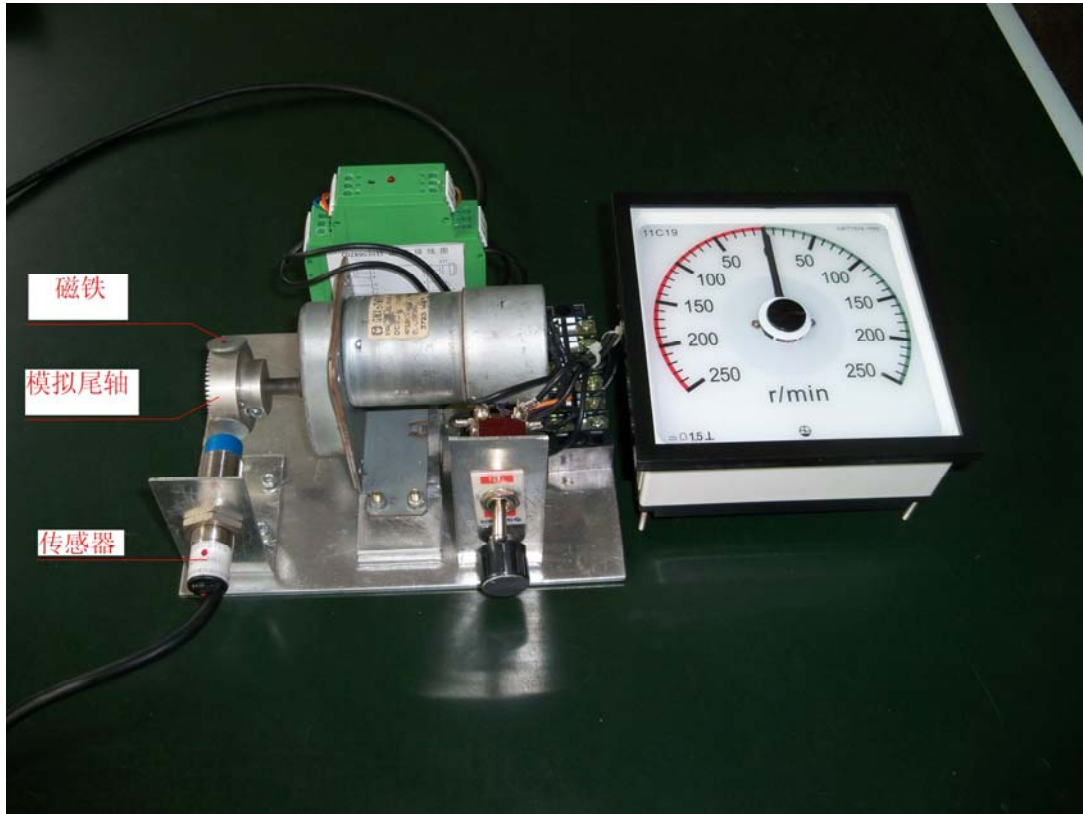
Product Specifications:



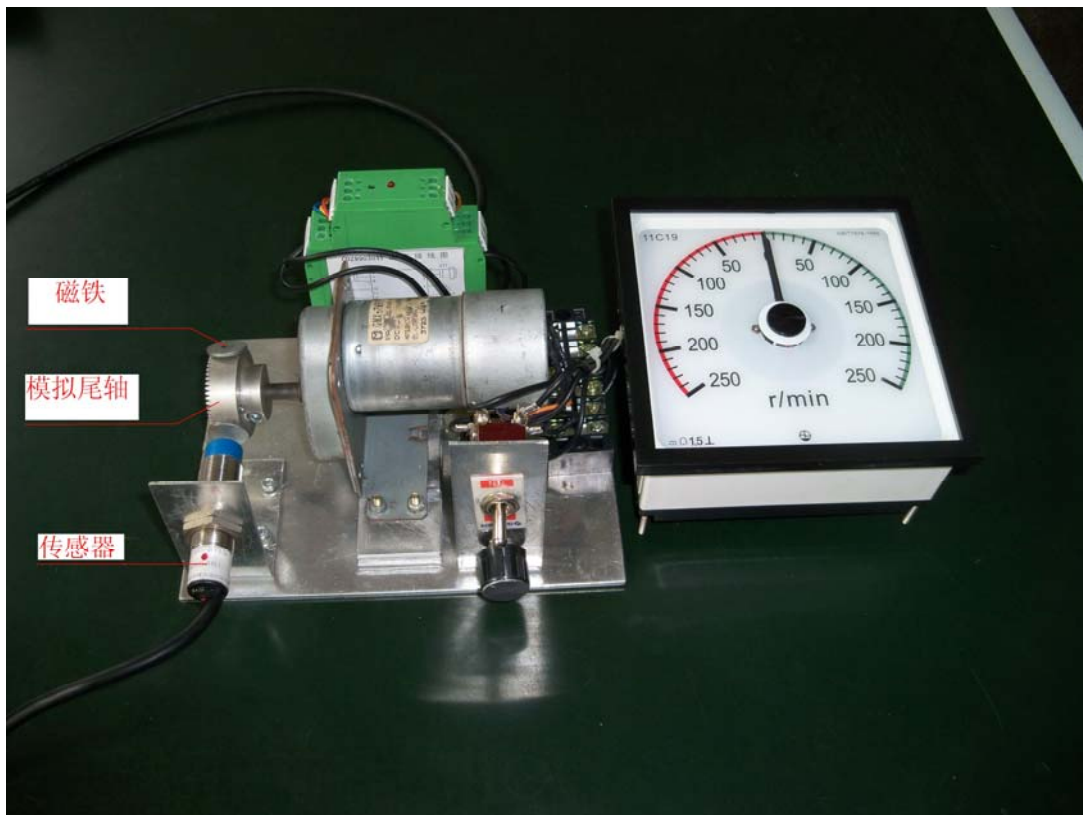
Component Pictures



**Embedded Tachometer
CDZ9903FC144**



Opening Picture of CDZ9903BC210 Rotational Speed Detection Box



CDZ9903B-m Simulator



CDZ9903B Modular

Parameters:

Type	Installation Mode	Outline Dimension (mm ³)	Install Dimension (mm ²)	Notes
CDZ9903A (B) speed detector modular	DIN35 rail type	79×25×115	/	Power supply DC24V
CDZ9903-JB210 Detecting box	Wall-hanging	200×200×150		Power supply DC24V or AC220V with CDF144 indicator
CDZ9903-F144 Pointer-type indicator	Embedded	144×144×138	Hole dimension 139×139	Type and number of the indicator can be chosen according to your needs
CDZ9903-F96 Pointer-type indicator	Embedded	96×96×92	Hole dimension 93×93	
CDZ9903-B210 Tachometer box	Wall-hanging	210×210×110		
NBB5- φ 18 Closing switch	Screw fixed	φ 18×50	φ 18	Or φ 12×50
CDZ9903-4p-m Magnetic closing switch	Screw fixed	φ 18×65	φ 18	
Speed gear	Screw fixed	φ XXX mm	Two and a half clamp	Weight and size are decided by tail shaft's diameter

CYD2 Rudder Angle Indicator

Main features and functions:

CYD2 rudder angle indicator's power supply can be AC220V or DC24V. It has advantages of high accuracy($\leq 0.5^\circ$), low noise, convenient installment and adjustment, low cost and strong load ability etc. The instrument is composed of a rudder angle transmitter, a controller and an indicator (embedded or wall-hung). The power switches, zero position adjustment and full rudder adjustment are on the box. It can be widely used to indicate rudder angles for various kinds of ships.

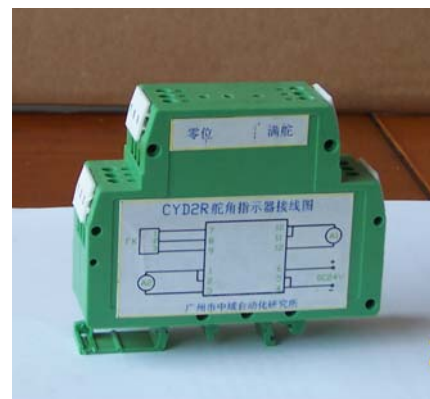
This rudder angle indicator can be used with traditional synchronic three-side rudder indicator, using this equipment, not only the cost is reduced but also the performance, load ability and accuracy are highly improved.

1. Indicating accuracy: not bigger than 1°
2. Indicating angle: $\pm 40^\circ$
3. Working temperature: $-25^\circ\text{C} \sim 60^\circ\text{C}$
4. Humidity: 95% Temperature: 45°C
5. Vibration: 2-80HZ Acceleration $\leq 0.7g$
6. Power supply: DC24V AC 110-220V
7. Power consumption: $< 3\text{VA}$
8. Maximum load ability: can load same type indicator of 10-channels

Product Specifications:



Three-side Rudder Indicator



CYD2(R) Controller Modular



CYD2 Wall-hanging Rudder Indicator


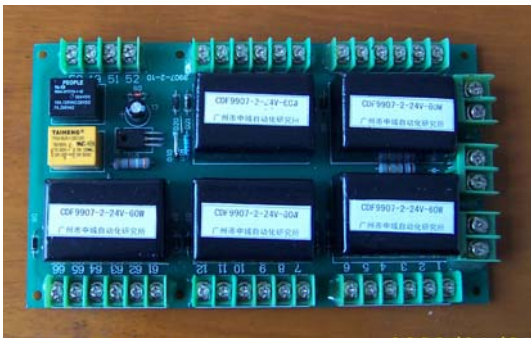



Rudder Transmitter and Embedded Indicator

Physical Properties:

No.	Name	Outline dimension (mm ³)	Weight (kg)	Property	Note
1	CYD2 transmitter	210×210×142	2.4	splash protection	
2	CYD2 controller	98×52×149	0.7	splash protection	DC24V/AC220V
3	CYD2(R) control modular	50×80×25	0.5	splash protection	DIN35 guide roll installation DC24V
4	CYD2-F96 embedded rudder angle device	96×96×110	0.5	splash protection	With light, can substitute German product of the same type
5	CYD2-F144 embedded rudder angle device	144×144×77	0.7	splash protection	With light, can substitute German product of the same type
6	CYD2-B210 wall-hanging rudder indicator	210×210×110	2.2	water protection	adjusting light
7	ODS6A-1 three-side rudder angle indicator	200×125	7	splash protection	With adjusting light AC220V

Navigation Light Control PCB


Type and Pictures	Product Profile
<p>8-Channel Navigation Light Control PCB DC24V-60W</p>  <p>Outline Dimension: 132×129×25mm³</p>	<p>CDF9907 navigation light control PCB adopts advanced technique with all electronic components packed on one piece of circuit board, which can be used to control 8 or 10 channels navigation light (signal light). It has apparent advantages of low consuming power(24V、0.8W, 220V、0.2W), wide rang of indicator light voltage(6.3V-24V) and brightness controlling of 16 channel indicator light by single dimming device. In addition, it has alarm function if filament breaks or automatically resets. This panel combined with fuse, button switch, indicator, and buzzer make up a good function voyage light (signal light) controller, which can substitute the old sailing light controller.</p> <p>note:</p> <ol style="list-style-type: none"> 1. The performance and principle of 8-10 channels' navigation light control PCB are the same. 2. 220V-10 channel navigation light control PCB's supply power of high-voltage and low-voltage are isolated completely and the safety performance is good. 3. CDF9907-2-DC24V-D has the COM output of RS-485.
<p>10-Channel Navigation Light Control PCB DC24V-60W</p>  <p>Outline Dimension: 132×129×25mm³</p>	
<p>10-Channel Navigation Light Control PCB AC220V-60W</p>  <p>Outline Dimension: 132×129×25mm³</p>	

8-Channel Navigation Light Control PCB(with COM port)



Outline Dimension: 132×129×25mm³

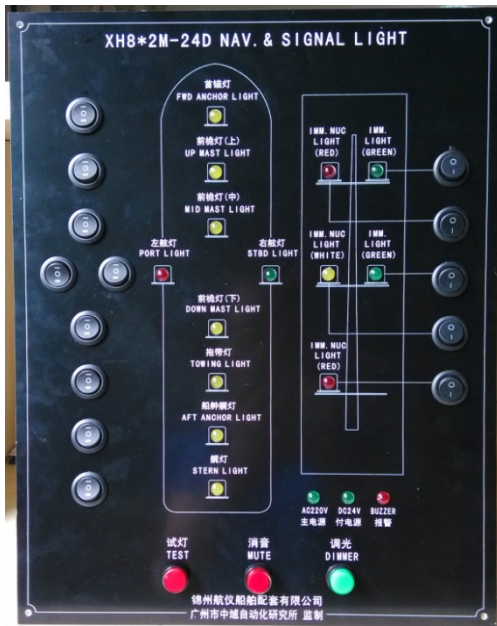
Navigation Light Controller

Type and Pictures	Product Profile
<p data-bbox="140 324 667 360">CDF9928/8 Navigation Light Controller</p>  <p data-bbox="140 943 662 1064">Outline Dimension: $144 \times 144 \times 60\text{mm}^3$ Hole Dimension: $139 \times 139\text{mm}^2$ Weight: 0.8Kg</p>	<p data-bbox="783 324 1401 645">CDF9928/8 navigation light controller uses touch-key switch and small sized inbuilt structure. It can control 8 channels' navigation lights (power not more than 80W) on or off directly. It can depart into two types according to the power supply. Model CDF9928A's power supply is DC24V and CDF9928B's AC220V.</p> <p data-bbox="783 656 979 689">Main Features:</p> <ol data-bbox="783 696 1401 1308" style="list-style-type: none"> 1. Low power consumption Type A < 8W(All 8 groups light on (24V60W)) Type B < 5W(All 8 groups light on (220V60W)) 2. It has a lot of functions, such as trying a light, eliminating a sound, adjusting light and connecting external alarm. 3. There are 16 fuses on the back. 4. Convenient installment. Customers only need to connect it with power supply and sail light. 5. Power supply: <ol data-bbox="783 1234 1070 1308" style="list-style-type: none"> a. AC220V, DC24V b. DC24V
<p data-bbox="140 1339 694 1375">CDF9928-8D Navigation Light Controller</p>  <p data-bbox="140 1771 758 1980">Outline Dimension: $320 \times 220 \times 100\text{mm}^3$ Hole Dimension: $300 \times 200\text{mm}^2$ Dimension of Bottom Panel: $300 \times 250 \times 70\text{mm}^3$ Weight: 4.5Kg</p>	<p data-bbox="783 1323 1401 1899">CDF9928D navigation light controller (controller for short) is a kind of new instrument designed for yacht, it has functions of trying a lamp、adjusting light、alarming when the filament broken、exchange of up/down light、independent of alarming and indicating、RS485 communication and so on, this device also can control the state of 8-channel DC24V 60W navigation light(signal light). The controller panel is constitute with 7 or 8 groups navigation indicating light、host/slave power source indicating light、trying lamp button、adjusting light knob、bullhorn and controlling switch.</p> <p data-bbox="783 1906 1086 1939">Power voltage: DC24V</p> <p data-bbox="783 1951 1182 1984">Installation method: embedded</p> <p data-bbox="783 1995 1401 2029">Number of controlled light: 8-channel 60W</p>

(24V)
With RS485 communication output

CDF9928A-24 Bus Navigation Light Controller

Receiver (input panel)



Installation Panel(output panel)



Dimension of Control Show Panel: 220×330×130mm³
 Hole Dimension:195×275 mm²
 Thickness: 4 mm
 Dimension of Install Bottom Plate: 380×380×90mm³
 Dimension of Install Hole: 350×350 mm²
 Thickness: 1.5 mm

CDF9928A-16 navigation light controller (controller for short) is a new product , it has functions of testing a lamp、 adjusting light、 silencing、 alarming when the filament broken、 independent of alarming and indicating 、 independent of alarming and silencing、 RS485 communication and so on, this device also can control the state of navigation light whose power is no more than DC24V-60W.

The system is composed of three parts: receiver plate(input board) 、 install bottom plate(output board) and control display plate, the former two plates are unified circuit board, it is only need to change control display plate for different types of ship and arrangement.

*Bus mode: only 6 lines are required to link input and output plates.

*with COM output: can output standard data by RS485.


*alarm and flash: indication light turns normally on to flash when filament broken.

*independent silencing: no influence with other alarm when silencing.

*standardization: input plate and output plate can be used universally, it is only need to change control display plate for different types of ship.


*safe: large current is not required to flow into input board and control display plate.

16-Channel Patrol Instrument

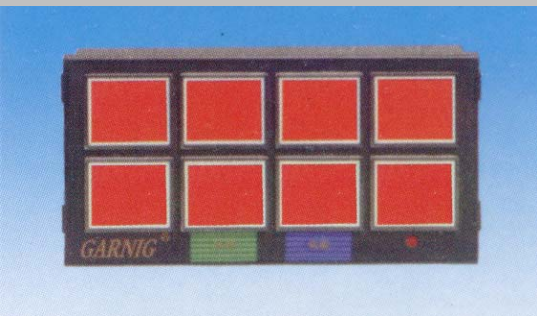

Type and Picture	Product Profile																																																																
<p style="text-align: center;">HYPO-M1210 Patrol and Alarm Instrument</p> <div style="text-align: center;">  </div> <p>Outline Dimension: 144×144×55mm³ Hole Dimension: 139×139 mm² Weight: 700g Power Supply: DC24V</p> <p>Wire Diagram On the Back</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 16.6%;">A01</td> <td style="width: 16.6%;">B01</td> <td style="width: 16.6%;">C01</td> <td style="width: 16.6%;">V+</td> </tr> <tr> <td>A02</td> <td>B02</td> <td>C02</td> <td>V-</td> </tr> <tr> <td>A03</td> <td>B03</td> <td>C03</td> <td></td> </tr> <tr> <td>A04</td> <td>B04</td> <td>C04</td> <td>HIGH RELAY</td> </tr> <tr> <td>A05</td> <td>B05</td> <td>C05</td> <td></td> </tr> <tr> <td>A06</td> <td>B06</td> <td>C06</td> <td>LOW RELAY</td> </tr> <tr> <td>A07</td> <td>B07</td> <td>C07</td> <td></td> </tr> <tr> <td>A08</td> <td>B08</td> <td>C08</td> <td>SIREN RELAY</td> </tr> <tr> <td>A09</td> <td>B09</td> <td>C09</td> <td></td> </tr> <tr> <td>A10</td> <td>B10</td> <td>C10</td> <td></td> </tr> <tr> <td>A11</td> <td>B11</td> <td>C11</td> <td>RESET</td> </tr> <tr> <td>A12</td> <td>B12</td> <td>C12</td> <td></td> </tr> <tr> <td>A13</td> <td>B13</td> <td>C13</td> <td>GND</td> </tr> <tr> <td>A14</td> <td>B14</td> <td>C14</td> <td>B-485</td> </tr> <tr> <td>A15</td> <td>B15</td> <td>C15</td> <td>A-485</td> </tr> <tr> <td>A16</td> <td>B16</td> <td>C16</td> <td></td> </tr> </table>	A01	B01	C01	V+	A02	B02	C02	V-	A03	B03	C03		A04	B04	C04	HIGH RELAY	A05	B05	C05		A06	B06	C06	LOW RELAY	A07	B07	C07		A08	B08	C08	SIREN RELAY	A09	B09	C09		A10	B10	C10		A11	B11	C11	RESET	A12	B12	C12		A13	B13	C13	GND	A14	B14	C14	B-485	A15	B15	C15	A-485	A16	B16	C16		<p>HYPO-M1210 patrol and alarm instrument (16-channel analog signal) is the present newest generation of intelligent digital patrol instrument. This instrument is designed and manufactured according to characteristic and requirement of ship instrument, using high-performance SCM as the core and the square metal shell. It has advantages of working stably and reliably, compact structure and complete functions. It is especially suitable for the alarm of cabin comprehensive indication、pump temperature Indication、liquid level indication for all kinds of ships. It is also suitable to measure and demonstrate temperature pressure & the current of production process in chemical industry, metallurgy, thermal power, light industry, etc.</p> <p>Main Features and functions:</p> <ol style="list-style-type: none"> 1.It is high measurement accuracy, and can correct the input signal of thermocouple、thermometer resistance and remote transmission resistance with high accuracy and nonlinear. 2.Upper limit of alarming: red light flashes, H、ALM relay output. Lower limit: yellow light flashes, L、ALM relay output. 3. Each channel can set the upper and lower limit alarm value independently. 4. Every monitor loops can choose on or off according to actual situation .when the loop is off, it is not able to display the measuring value or outputs alarming. 5. When power is off, parameters can be preserved reliably for a long time. 6. It has the switch function between itinerantly monitor and pointing monitor. Monitoring one point, it is still
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A15	B15	C15	A-485																																																														
A16	B16	C16																																																															

	<p>monitoring the other points. If beyond up and low limits, relevant point alarms.</p> <p>7. It can communicate with the host computer, and centrally monitor the locale data and control the instrument.</p> <p>8. It can set the parameters flexibly on the panel, every parameter can be locked with each other and set up and low limit.</p> <p>9. It can set the liquid density, and fill various liquid, the actual depth can be displayed only by inputting the liquid density.</p> <p>10. Input signal type thermocouple: B, S, E, K, T, J, R, N thermal resistance: Pt100、Cu50、Cu100 Standard signal: 0-10mA、4-20mA、DC0-5V、DC1-5V</p>
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16-Channel Average Itinerant Monitor Control Device

Type and Picture	Product Profile
<p data-bbox="212 324 686 439">HYPOM1200F 16-Channel Average Itinerant Monitor Control Device</p>  <p data-bbox="212 900 679 1064">Outline Dimension:96×96×100mm³ Hole Dimension:92×92mm² Weight: 400g Power Supply: DC24V</p>	<p data-bbox="708 324 1327 768">HYPOM1200-F 16-channel average itinerant monitor control device (monitor unit for short) can be compound used with M1200 16-channel patrol instrument which is designed by us, it is used not only as the displaying slave computer of 16-channel patrol instrument, but also to measure the mean value of host computer's exhaust hood, it still can be used to monitor alarming or controlling. Only two communication lines are needed for their connection.</p> <p data-bbox="708 779 1327 936">Using monitor device as the displaying slave computer of 16-channel patrol instrument can save lots of installation cables, also make the debugging easier.</p> <p data-bbox="708 947 1327 1144">Monitor instrument can set the upper and lower limits' alarm value of measure point value and mean value, the alarming state is displayed by LED state light, and the relay alarm point is output.</p> <p data-bbox="708 1155 1327 1395">The instrument has the functions of patrol inspection and inspection change for given point. When patrol inspecting, 1-16 channel display value is the same as patrol instrument value, finally the mean value is displayed (denoted by E=)</p> <p data-bbox="708 1406 1327 1473">The mean value points of monitor device can be set artificially.</p> <p data-bbox="708 1485 994 1518">Main technical index:</p> <ol data-bbox="708 1529 1327 1930" style="list-style-type: none"> 1. display parts: 2 LED digital tubes of 4 bits and 0.56 acres 2. Display accuracy: $\pm 0.5\%FS+1$ word <ol data-bbox="740 1653 1327 1771" style="list-style-type: none"> A. set accuracy: the same as basic displaying error B. range of alarming parameters: 0~100%FS 3. numbers of measuring channel:1-16 points(can be set artificially and not change with patrol instrument's shielding points) 4. contact capacity: below 220VA, 3A




Navigation Light Controller

Type and Picture	Product Profile
<p data-bbox="140 324 608 358">CDF9910 8-Groups Flashing Alarm</p>  <p data-bbox="140 692 635 772">Outline Dimension: 160×80×60mm³ Weight: 0.2 Kg</p>	<p data-bbox="783 324 1401 607">CDF9910 8-groups flashing alarm is controlled by advanced SCM, and displays with LED plate indicator. Input signal can be normally-open or normally-closed (jump line on inner part), it also can be high level or low level. It has advantages of wide applying scope, reliable working status and low price.</p> <p data-bbox="783 613 1230 647">Power supply: DC24V or AC 220V</p> <p data-bbox="783 654 1401 732">Setup the indicator color: All lights are red in 8groups or by customers' needs.</p> <p data-bbox="783 739 1401 817">Memory function: It can take this function if note in the order.</p>
<p data-bbox="140 840 379 873">Oil Content Meter</p>  <p data-bbox="140 1373 695 1453">Outline Dimension: 336×420×216mm³ Install Dimension: 383×210mm² (φ 8×4)</p>	<p data-bbox="783 840 1401 1290">Model XOC-01 15PPm cabin bottom water alarm instrument is consistent with the standard of International Maritime Organization, it is a kind of new product adopts infrared measuring and SCM technology, which can be applied to monitor oil waste water on-line at the bottom of ships cabin, it has function of information memory and print, which is linked with computer and supervised in long-distance. The instrument obtains the CCS type certificates.</p> <p data-bbox="783 1296 1098 1330">Technical Specification:</p> <p data-bbox="783 1337 1198 1370">Rang Of Measuring : 0~30PPM</p> <p data-bbox="783 1377 1171 1411">Measure Precision: ±5 PPM</p> <p data-bbox="783 1417 1066 1451">Alarm Point: 15 PPM</p> <p data-bbox="783 1458 1362 1491">Alarm Relay Work Load Capacity: 5A/250V</p> <p data-bbox="783 1498 1278 1532">Output Signals: 4~20MA、0~10VDC</p> <p data-bbox="783 1538 986 1572">Weight :13.5kg</p> <p data-bbox="783 1579 1382 1659">Power Supply: AC220V 、 AC330V 、 50HZ/60HZ</p> <p data-bbox="783 1666 1129 1700">Power Consumption: 20W</p>

Autopilot

Type and Picture	Product Profile
<p>CDH2008 Master of Autopilot</p>  <p>Outline Dimension: 334×181×52mm³(08 version) 285×177×52mm³(10 version) Weight:1.6 Kg</p>	<p>CDH2008 autopilot can be used with Roland、magnetic compass and GPS connection, the input navigation signal is standard IEC61162 type(0183 digital signal), it is suitable for various kinds of ships.</p> <p>The instrument adopts advanced SCM technology and is stable, compared with the old autopilot; it has completely canceled the complex mechanical transmission.</p> <p>Autopilot uses independent digital tubes to display actual course and given course, resolution can achieve 0.1°, and it is easily to be observed.</p> <p>The device is designed modularly, and adopts plug-pull with outer device, which is more convenient for maintenance、replacement and overall arrangement. When it is trouble, no more than 10 minutes is taken to replace the troubled ship.</p>
<p>CDH2008x Master of Autopilot</p>  <p>Outline Dimension: 144×144×65mm³ Weight:1.6 Kg</p>	<p>Technical Specification:</p> <ol style="list-style-type: none"> 1. Input power: DC24V ±20% 2. Maximum output power: DC24V 2A (maximum) 3. Course accuracy: roland ≤ 0.2°; magnetic compass ≤ 1° (minority is ±2°) 4. Keep course: 1-2 grade sea state is 1°, 4-5 grade is 2-3°. 5. Have the function of adjusting proportion、integral、weather and brightness. 6. Have the function of yaw alarm and automatic reset. 7. Environment temperature: -10-50°C
<p>Servo Steering Device</p> 	<p>Matching products: according to customers' needs.</p>
<p>Rudder Angle Transmitter</p> 	 <p>Autopilot (vertical)</p>

Magnetic Compass Converter

Type and Picture	Product Profile
<p data-bbox="156 324 547 360">Magnetic Compass Converter</p> 	<p data-bbox="783 324 1401 566">Magnetic compass converter is a kind of high-performance digital instrument used in ship, which can change compass course signal into standard IEC61162/NEMA0183 signal, and the signal transfers to other equipments, such as AIS, GPS, Radar, etc.</p> <p data-bbox="783 573 1401 775">The magnetic sensor should be put in the central of Magnetic compass when it is installed. Rotating magnetic sensor, cement the sensor with glue while the value displayed on the converter is the same as magnetic compass.</p>
<p data-bbox="145 822 542 857">Electronic Compass Converter</p> 	<p data-bbox="783 822 1401 1064">Electronic compass converter can change synchronous or stepping compass course signal which is output by traditional ship into standard IEC61162/NEMA0183 signal, and the signal can be transferred to other equipments, such as AIS, GPS, Radar, etc.</p> <p data-bbox="783 1070 1401 1227">Please refer to the instructions while using this converter, and adjust converter's display value to the same as electronic compass converter's.</p>
<p data-bbox="145 1341 687 1377">Tail Shaft Temperature Measuring Device</p> 	<p data-bbox="783 1341 1401 1583">Tail shaft temperature measuring device is used to monitor the working temperature of host computer's tail shaft, when the temperature is higher than given limits it outputs sound and light alarms, it is also can be used in other devices.</p> <ul style="list-style-type: none"> <li data-bbox="815 1590 1238 1626">Measuring temperature: -50-600 <li data-bbox="815 1632 1158 1668">Monitoring point: 2 points <li data-bbox="815 1675 999 1711">Accuracy: 1% <li data-bbox="815 1718 1110 1753">Power supply: DC24V <li data-bbox="815 1760 1118 1796">Alarm device: arbitrary <li data-bbox="815 1803 1310 1839">Output alarm: 2 independent channels

HYPO-D2210D Diesel Engine Alarm Control Device

Main features and functions:

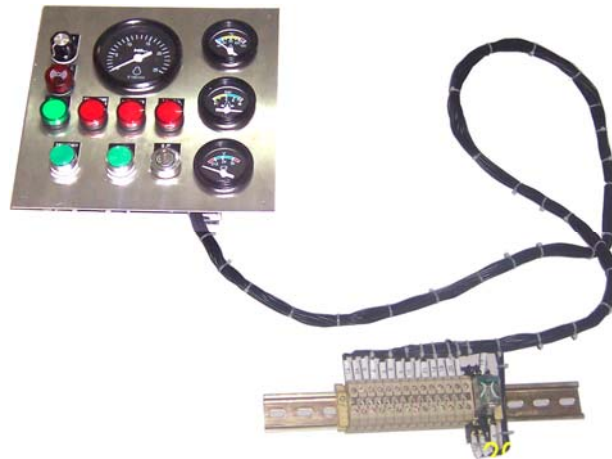
D2210D diesel engine control device is composed of a local control box and remote control board. It can be used matching with Cummins diesel engine. The local control box is installed in engine room. On the panel there are tachometer ,ejected air thermometer, water thermometer, oil thermometer, oil pressure meter, voltmeter, timer and RUN, over speed stop(OS), water temperature high (HWT) , low oil pressure (LOP) and emergency stop (ES) indicator light, which are used to indicate the engine operating circumstance. In addition, power, RUN, emergency stop (ES), local/Remote switch button is assembled on the panel. There are CDZ9903 speed relay & other relative relay assembled in the box.

Remote control board is installed in driving house. On the board there are tachometer, water thermometer, oil thermometer, oil manometer, voltmeter, and RUN, over speed (OS), Low Servo Pressure (LSP),water temperature high (HWT), low oil pressure (LOP), emergency stop(ES) indicator light and bullhorn to indicate the engine operating circumstance. In addition, power, emergency stop (ES), Local/Remote switch button and Dimmer (light adjustment) is assembled on the board.

Dimension of local control box: 400mm×500 mm×200 mm

Dimension of Remote control board: 400mm×500mm×200 mm

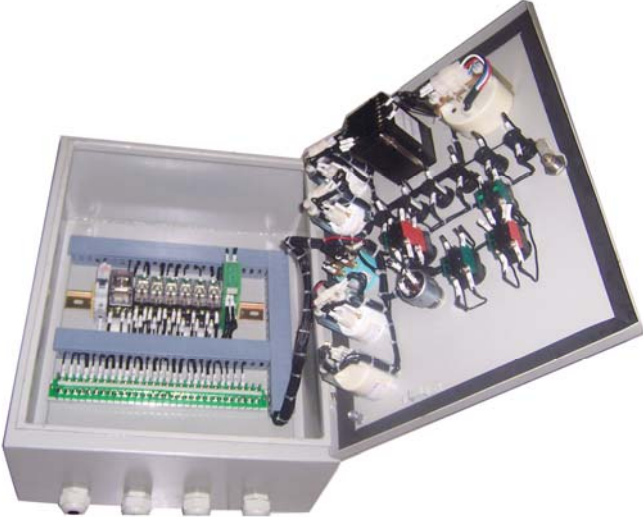
Pictures:



Remote Control Board



Local Control Box



Opening of Local Control Box

HYPO-D2210 Diesel Engine Alarm Control Device

Main features and functions:

HYPO-D2210 diesel engine alarm control system fits on CUMMINS diesel engine, it is suitable to equip with coastal transportation ship, passenger ship and the Cargo vessel of single or double host computer, it has 16 alarm points.

Alarm box is installed in engine room with one alarm host computer of D2210 16-group, 2 PCS (or 1PCS) CDZ9903 rotational speed controllers, and one stop control panel. Display panel is installed in wheel house. Only 6 wires are needed to connect the alarm box and display panel. (2 signal wires, 2 power supply wires and 2 emergency stop wires). 1-8 groups alarm points are used to alarm and stop (for example: high water temperature, low oil pressure, over speed, emergency stop), 9-16 groups are used to alarm (for example: high water temperature, low oil pressure, over speed, low oil pressure of gear wheel), the control contents in 16 groups can be set by customer.

Both alarm box and display panel can horn reset, answer and alarm to check. They display conformably and work synchronously.

Dimension Of Alarm Box: 300mm×400mm×150mm

Power Supply Of Alarm Box: DC24V ±15%

Pictures:



HYPO—D2210 Display Panel



Alarm Control Box

CDF9916 Liquid Level、Temperature、Pressure、High Level Supervising & Alarm

Units

Main features and functions:

The supervising and alarm unit is applied to chemical ship, oil ship and other liquid cargo ship to monitor liquid level、temperature、pressure、high level display and alarm. We can provide the integer device, also provide monotype. For example, CDF9916T (temperature) can be used in oil pump, load pump, sweeping cabin pump in the pump house to supervise temperature and alarm.

The supervising & alarm unit is composed of liquid level, temperature、pressure、high level sensor、safety bar, 16 groups supervising instrument, 16 groups alarm and power supply, switch, horn reset, test, lamp reset button. It has three kinds of installation styles: cabinet style, box style and board style.

1. Main performance:

Rang of supervising

Liquid level: 0-30m

Temperature: $-199^{\circ}\text{C} \sim 600^{\circ}\text{C}$

Pressure: $-0.01 \sim 5\text{Mpa}$

High level: 95%、98%

Precision: 1%

2. Environment temperature

Host engine (patrol instrument、alarm、safety bar, etc) $-10^{\circ}\text{C} \sim -50^{\circ}\text{C}$

Level transmitter: $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$

Temperature sensor: $-199^{\circ}\text{C} \sim 600^{\circ}\text{C}$

Pressure transmitter: $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$

High level sensor: $-30^{\circ}\text{C} \sim 80^{\circ}\text{C}$

3. Power supply: AC $220\text{V}^{+6}_{-10}\%$ 、

DC $24\text{V} \pm 10\%$

4. System consuming power 80W(12cargo cabins, 48 points)

5. Substantial safe model

6. Protection model

Host engine: IP22

Sensor: IP67

7. Explosion-proof grade: Exia II CT3-CT6

8. It has enacted density function in measuring liquid.

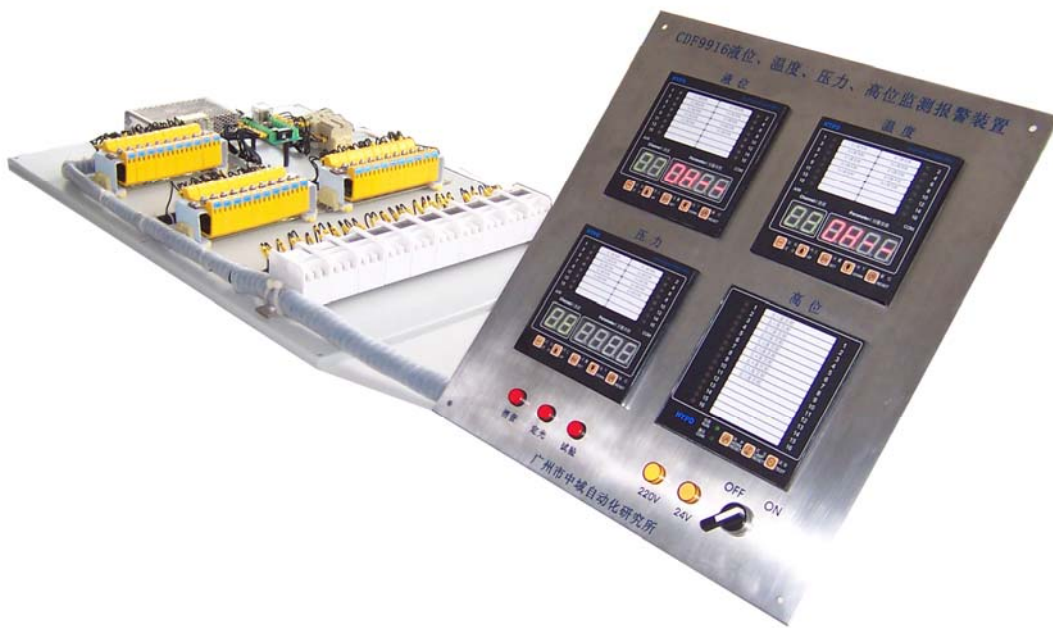
9. When fixed-point examines, others examine as usual, it alarms if beyond upper and low limits.

10. It has mutual horn reset、lamp reset、test key.

11. It has functions of alarming flash、lamp reset、horn auto reset.

12. Output by RS485, and can connect repeater (remote display).

Pictures:



Embedded Driving Platform



Cargo Hold Monitor Platform



High Level Transmitter



Temperature Sensor



Pressure Sensor



Liquid Level Sensor



Floating dock monitoring issue – valve/ level remote measuring, remote control device

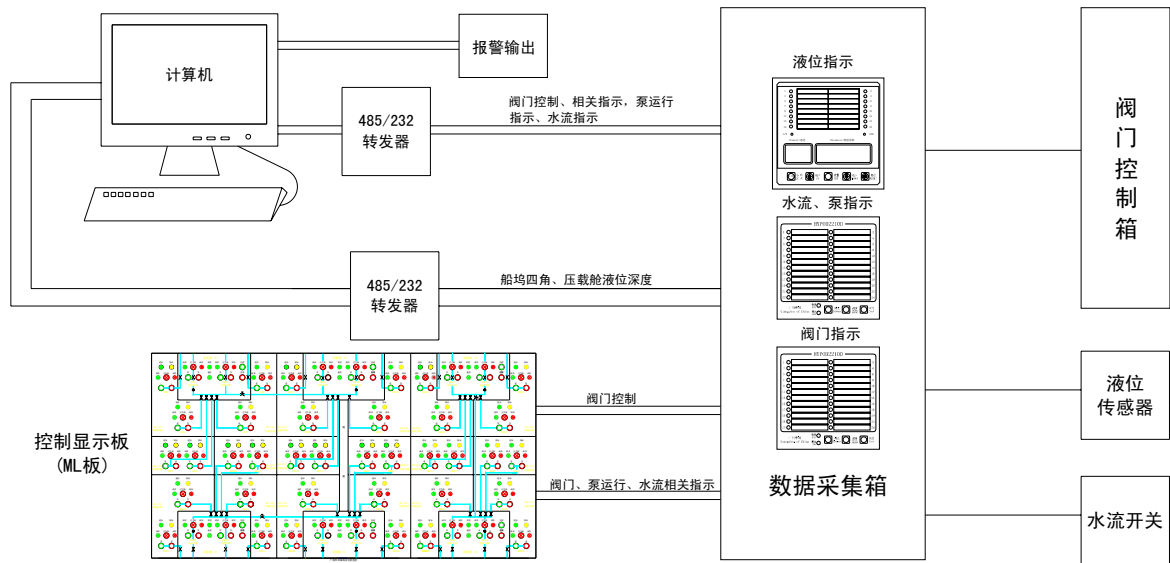
CDF9916 Floating dock monitoring control system(Hereinafter referred to as the dock monitoring system) applied to ship dock of four angle level depth , ballast tank level depth, electric valve open/close control and working state of the valve, water flow and ballast pump operation indicate.. 4000 t ship dock monitoring system capacity is analog quantity 96 points、 switch 864 points, 96 amounted to 960 points.

The control system display for two sets of this system, one set is industrial computer control display, according to a set of control for ML board, two sets are separate, adopt bus control, advanced performance, simple and practical, economic benefit and so on performance is significant. Using this system can greatly reduce the amount of use of cable, the shipyard purchase and according to the loading to reduce costs, and make test \maintenance is very convenient.

2、 Syatem composition

Dock monitoring system consists of industrial computer、 configuration software、 Monitor, uninterruptible power supply, the data acquisition box, (6sets), ML board (including control panel), liquid level sensor (22sets) and electronic type flow switch (36pcs). See the . schematic diagram.





Floating dock monitoring control system schematic diagram