

# PRODUCT DESCRIPTIONS



## Marine Electric Clock System(MCS-970)

Standard Marine Electric Clock System(MCS-970)  
Marine Standard Clock System

### GENERAL DESCRIPTION

Marine Electric Clock System is a device for indicating precise time and date to the analogue/digital slave clocks as well as recording and monitoring the operation data of the vessel. By using a 10.000MHz TCXO crystal oscillator to compensate temperature, the MCS-970 system excels in safety and precision as the system has 0.1 second error per month. These systems are manufactured to be shock and vibration proof, as well as are protected from air pressure and salt. The system was tested at the IEC60945 standard and approved for CE.

#### System Features

1. Power Source : AC110/220V, 1Ø, 50/60 Hz
2. Emergency Power : AC or DC 24V (Ripple less than 5%)
3. Power Consumption : AC, less than 50VA  
DC, less than 1.6A (At 24V DC)
4. Automatically switch to DC when AC power causes failure
5. Certification : DNV CE
6. Temperature : -20°C ~ +45°C
7. Humidity : Less than 90%
8. Net Weight : 7.82Kg
9. Painting Color : 5.4 PB 2.8 / 3.0 (Dark Blue)
10. Dimensions : 386(W) x 316(H) x 110(D)
11. Mount Type : Flush Mount (Manufacturer Standard)

#### Capacity & function of the System

1. Crystal Oscillation Frequency : 10.000 MHz (TCXO)
2. Accuracy : Within  $\pm 1.0$  sec per a month
3. Dual Clocks in Main Unit :  
- Master (UTC) : Three Hands, 0.5sec. Leap,  $\varnothing 80$ mm Dial  
- Slave (LTC) : Two / Three Hands, 30sec. Leap,  $\varnothing 80$ mm Dial
4. Output Signal Form  
- For 0.5sec Slave Clock : DC 24V, 0.5sec Polarized Pulse  
- For 30sec Slave Clock : DC 24V, 30sec Polarized Pulse  
- Time Signal for Engine Telegraph Logger :  
DC 24V,  $\pm 30$ sec Polarized Pulse (ADV / REV)
5. Slave Clock : Up to 80ea
6. Battery Slave Clock (Optional)
7. Digital Slave Clock (Optional)
8. Built-in lighting control system (Dimmer)
9. Fully protects : Power source and slave line circuit
10. Robust mechanism architecture and excellent stability
11. Easy time control : CW and CCW direction for slave clocks
12. High speed time setup



#### Control Panel of Main Unit

- Main Unit (MCS-970)
1. UT (Universal Time)
  2. LT (Local Time)
  3. Mounting Holes
  4. Hinge
  5. Display & Control
  6. Name Plate
  7. Front Panel Mount

#### Detailed Description of each part

1. 30-Sec Time adjust switch
2. "TIME" : Stopping time of all clocks for a while.
3. "DIMMER" : Adjust illumination of back (EL) light
- 4/5. AC / DC Power Fuse : 1.3A / 5.0A
- 6/7. 0.5S / 30S Out Fuse : 1.0A / 1.0A
- 8/9. DC / AC Power Switch

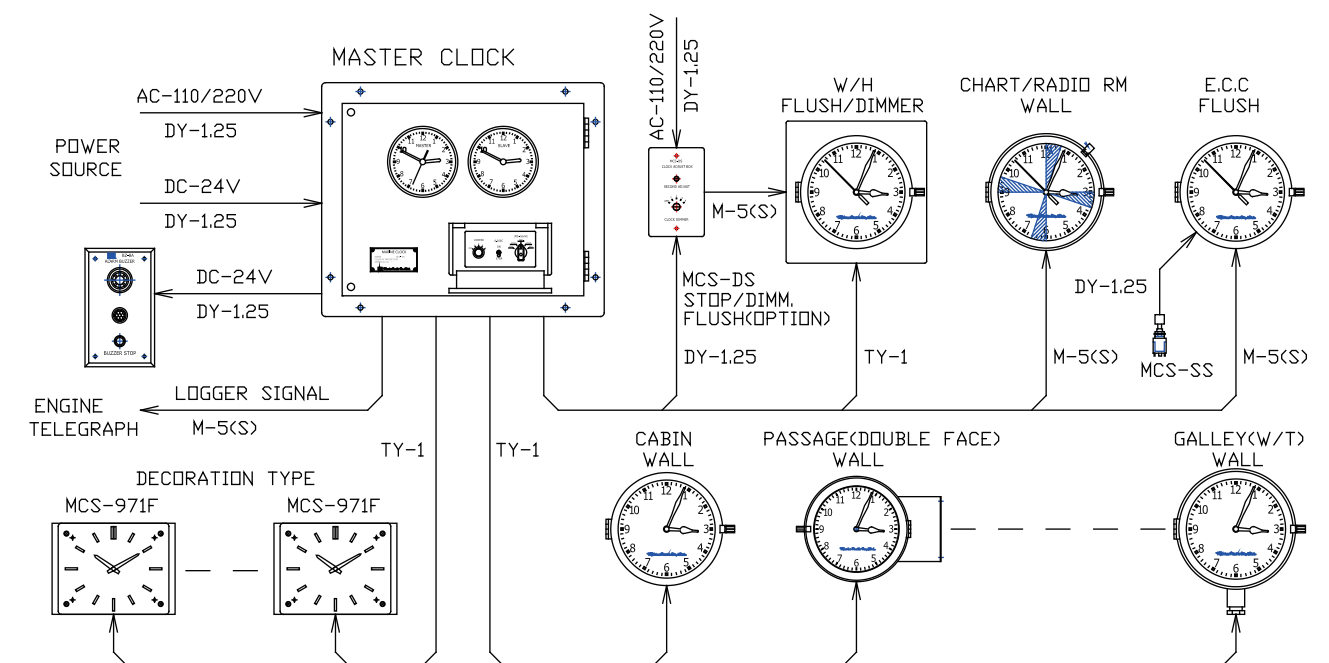


MCS-970 Main Unit



Flush Type Clock

Digital Type Slave Clock



[ Wiring Diagram of Marine Electric Clock (MCS-970) System ]