



Photo courtesy of Eric Stapleton

## Jastram Motor Starter & Alarm Systems

Motor Starter & Alarm (MSA) Systems control the electric motor and monitors the status of the hydraulic power units; feeding flow and pressure to the steering gear. Jastram MSA units are a heavy duty design meant for use in the marine industry.

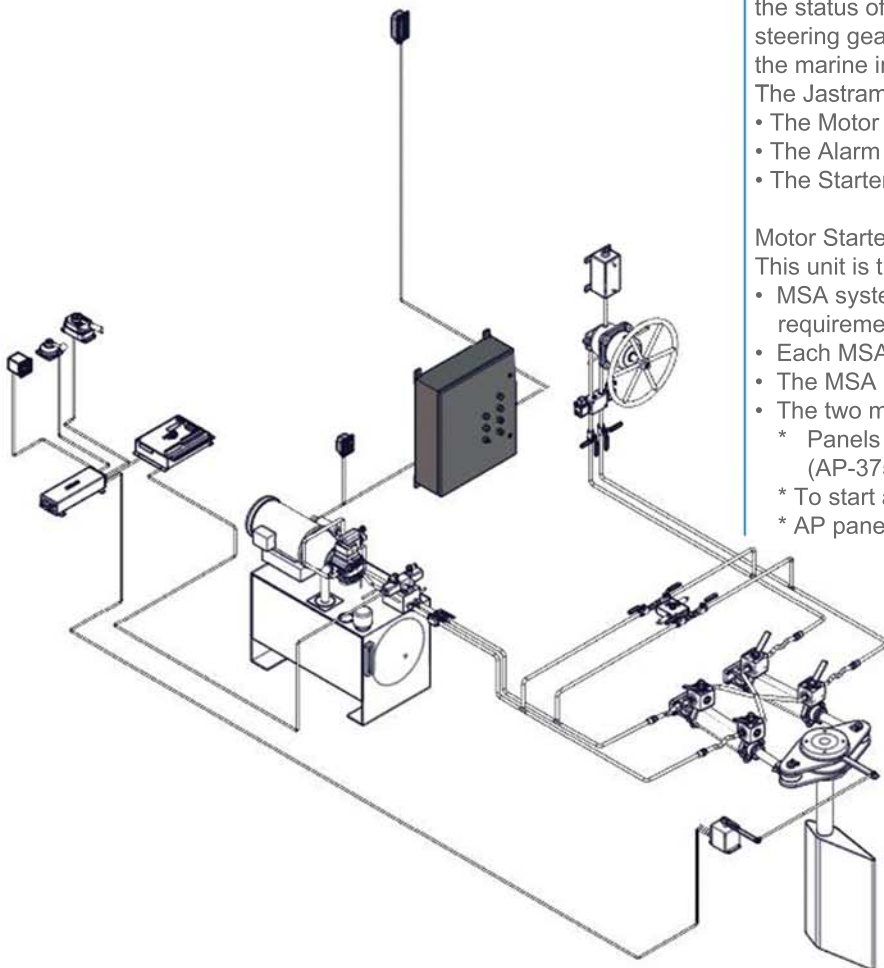
The Jastram MSA system consists of three main components:

- The Motor Starter and Alarm Box (MSA)
- The Alarm Panels (AP-600, AP-375)
- The Starter Panel (SP-36, AP-600)

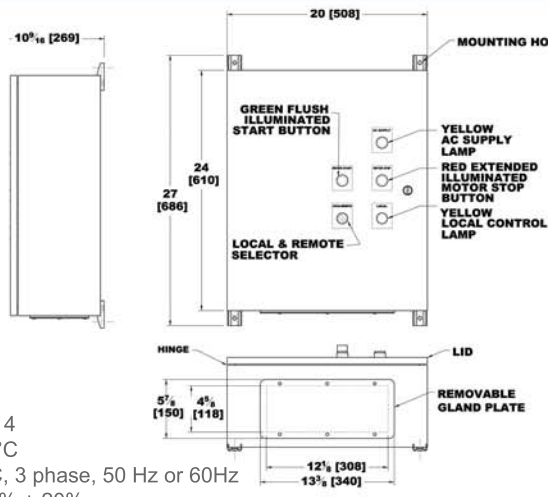
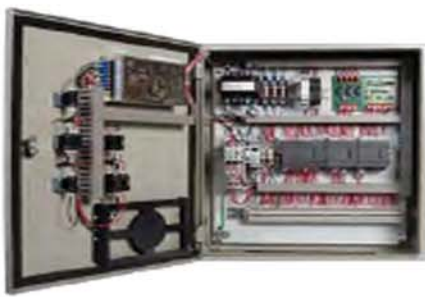
Motor Starters and Alarm Box Features:

This unit is the control and monitoring center of the MSA system.

- MSA system is designed to meet all major Classification Societies' requirements
- Each MSA box services one hydraulic power unit motor
- The MSA box connects to multiple remote alarm panels
- The two main types of panels are the alarm pane (AP) and the starter panel:
  - \* Panels used to indicate the status of the steering gear alarms (AP-375, AP-600)
  - \* To start and stop the HPU motor (AP-600, SP-36)
  - \* AP panels are fitted with independent dimming controls



# Motor Starters & Alarm Box



## Specifications

Enclosure Protection: IP 66, NEMA 4  
 Operable Ambient Temperature: 0°C to + 55°C  
 Main AC Supply Voltage: 208-575 VAC, 3 phase, 50 Hz or 60Hz  
 Emergency DC Supply Voltage: 24 VDC, -10 % + 20%  
 HPU Motor Horsepower: 1 HP- 40 HP, ( Note: motors larger than 460 V/40 Hp  
 Main 3 phase supply fuses: Require a larger enclosure size  
 Control Fuse (F4) 3 Amps  
 8 Amps

## Steering Control Power

Supply Output: 24 VDC ( 4 Amp max.), Auxiliary DC  
 Supply Current Draw: 30 mA normal operation,  
 2.5 Amps ( max.) emergency operation  
 Dimensions: Approx. 20" x 27" x 11" ( 508mm x 686mm x 269mm)  
 Weight: 67 Lbs. ( 30.5 kg) (max.)  
 Mounting: Bulkhead any orientation

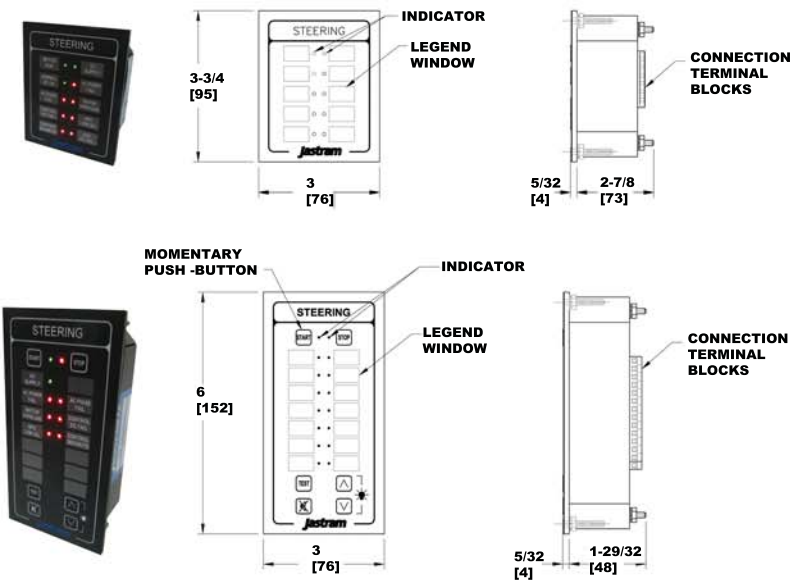
## Details:

- MSA motor interlocking prevents two motors connected to two MSA units from being run simultaneously
- HPU Low Oil Sensor signal is a dry contact input representing the oil level in the HPU reservoir
- Spare Alarm Sensors signals are dry contact inputs for up to four spare alarms
- Automatic transfer to backup power supply upon failure of primary power keeps the steering alarms active
- Automatic restart timer
- Visual indicators at both local and remote panels to warn of events taking place in the steering system

## Options:

- VDR interface can be added to MSA system for Class requirements
- Ship's AC Supply output for Dehumidifier in HPU motor
- Serial Output for third party systems, i.e., Ship's Central Monitoring System
- Ammeter, Hour Counter, Engineer's Delayed Alarm, Hydraulic Lock Alarm

# Alarm Panels (AP-375, AP-600)



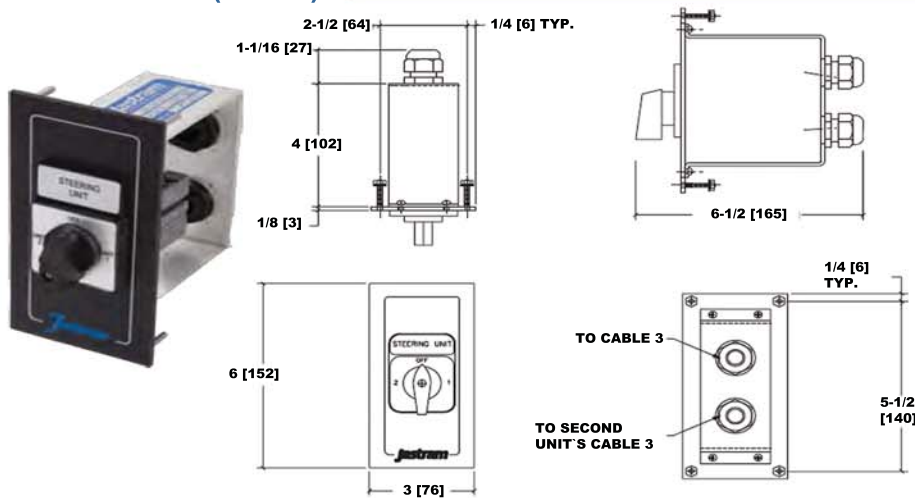
These customized panels provide visual and audible alarms at both local and remote stations.

- Pushbuttons and Indicator options include:
  - \* Up to 11 standard steering gear alarms and indicators are provided
  - \* AP - 375 can be populated with up to 10 indicators
  - \* AP - 600 can be populated with up to 14 indicators and has four dedicated Pushbuttons to for dimming and brightening the backlighting and to test and silence the Alarm Processing Unit's indicators. Start and Stop Buttons are also included.
- LED visual indicators display normal operating and failure modes
- Multiple panels can be installed in the MSA system
- Optional motor start and stop capability

## Specifications:

Indicator Common: PWM controlled sinking to ground  
 Indicator Signal Format: 24 VDC from MSA  
 PWM Frequency: 78 Hz  
 Output Current: 750mA ( max.) per indicator  
 Connector: 5.08mm spacing screw terminals  
 Dimensions: AP - 600 is 3" x 6" (76mm x 152mm), AP - 375 is 3"x 3 3/4" (76mm x 95mm)

# Starter Panels (SP-36)



The SP - 36 panels are dedicated to starting and stopping the steering gear hydraulic power units motors at the vessels local and remote stations.

- Rotary switch for remote start / stop of interlocked HPU motors
- Multiple panels can be installed in system
- Motor start and stop functions for 2 Hydraulic Power Units

## Specifications

Contact Format: Maintained Action, Normally Open  
 Number of Contacts: 4  
 Maximum Switching Capacity: 5.5 Amps, 240 VAC ( AC11)  
 Connector: M 3.5 ( Metric) screw terminals  
 Dimensions: 3" x 6" (76mm x 152mm)

Data is subject to change without notice\* BRC01601