Welcome – Maritime CHES 2019
New Transfer Switch Technology for Health Care Facilities.
What is an ATS
(Automatic Transfer Switch)
Automatic Transfer Switch is an electro-mechanical device

A self acting device that automatically transfers between 2 power sources to supply a load
Automatic Transfer Switch:

Consists of 2 Main Components:

• Control Panel
  ▫ Electronic
    ▪ Sensing, Timers, Inhibits, In-Phase Monitor

• Transfer Device
  ▫ Mechanical
    ▪ Load Transfer Between Sources
Automatic Transfer Switch Types

- Power Contactor (PC)
- Circuit Breaker (CB)
Automatic Transfer Switch (Contactor)

Switch Device

- Electrically Operated
- Mechanically Held
- Transfer Time Approximately 50 mS

Control Panel

- Voltage Sensing
- Time Delays
- Switching Logic
BYPASS ISOLATION SWITCH (Contactor)
Circuit Breaker Transfer Switch

Normal Load
Emergency Load

Switch Device

Control Panel

Normal ATS
Emergency ATS

Confidential Property of Schneider Electric
CIRCUIT BREAKER BYPASS ISOLATION SWITCH

Figure 1-2 Typical Bypass Isolation Switch

Figure 1-3 Typical Bypass Isolation Switch Schematic
Transfer Switch Technology
Closed Transition Transfer Switch

Normal source failure, engine start signal sent.
Closed Transition Transfer Switch

Waiting for Emergency source acceptable.
Closed Transition Transfer Switch

Emergency is acceptable. Normal contacts open.
Closed Transition Transfer Switch

Emergency contact close, Loads now connected to Emergency.
Closed Transition Transfer Switch

V, Hz, phase angle

Normal source returns, CP waiting to stabilize.
Closed Transition Transfer Switch

Emergency and Normal Sources connected for less than 100ms.
Closed Transition Transfer Switch

NO LOAD INTERRUPTION

100 Ms
Closed Transition Transfer Switch
Closed Transition Transfer Switch
TESTING

Closed Transition Transfer Switch

Normal source failure is simulated, engine start signal sent.
TESTING

Closed Transition Transfer Switch

V, Hz phase angle
TESTING

Closed Transition Transfer Switch

Emergency and Normal Sources connected for less than 100ms.
TESTING

Closed Transition Transfer Switch

Normal Source disconnected
TESTING

Closed Transition Transfer Switch

Emergency and Normal Sources connected for less than 100ms.
Testing

Closed Transition Transfer Switch

Emergency Source disconnected.
TESTING

Closed Transition Transfer Switch
Single Solenoid Electric Operator
Double Solenoid Electric Operator
Closed Transition Technology

Dual Solenoid Operators

Normal

Emergency

Load
Transfer Switch Connectivity Features

Ethernet Connectivity Module
Quad-Ethernet Module is the best way to remotely monitor, control and connect to your Power Transfer Switches.

**Monitoring Feature**
- Status of Generator, Utility and Transfer Switch
- Email Notification
- Alarms and Alerts
- Statistics and Activity
- Event Log (with Print Function)
- Controller Set points
- Power Monitoring*
- Energy Consumption*
- Historical KW Demand*

**Control Features**
- ATS Transfer/Re-transfer
- Generator Test
- Bypass Timer Delays
- Engine Start/Stop

**Connectivity Features**
- Modbus
- SNMP
- SMTP
- Advanced Encryption Standard
- Four Port Ethernet Switch
- RS485 Port
• Questions?

Transfer Switch Technology for Health Care Facilities.
• Thank You!