

## Un-Used Micro III for Compressor Control

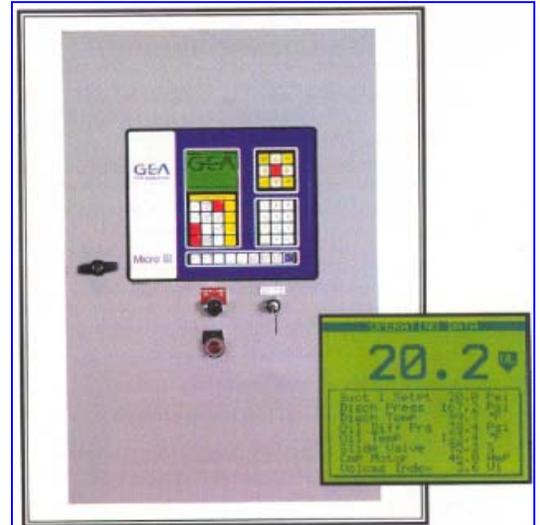
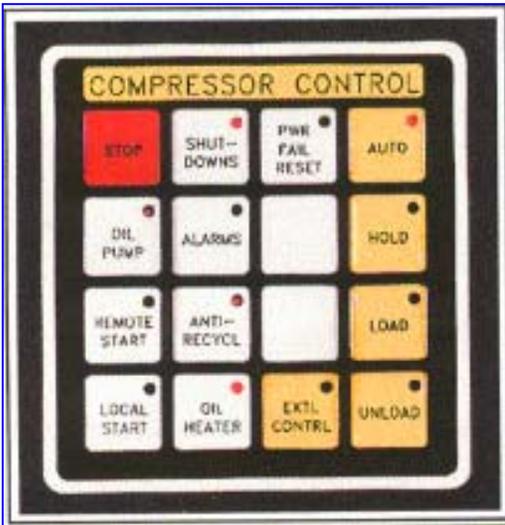
**Mfg: FES Systems Inc.**

**Model:**

**Stock No. NFES02.58**

**Serial No.**

Un-Used FES Systems Inc. Micro III Compressor Control Panel. Micro III is designed to replace outdated, obsolete or ineffective controls on most brands of compressors, including dual and two-stage packages. Advanced microprocessor technology, user friendly operation, advanced service features, easy installation and unparalleled interface capabilities make the Micro III the preferred refrigeration compressor control.



CURRENT DATA	
Suction Pressure	20.2 Pa
Disch Pressure	167.2 Pa
Oil Diff Press	38.4 Pa
Inlet Oil Press	205.7 Pa
Oil Filter Diff	3.2 Pa
Oil Filter Inlet	209.9 Pa
Oil Separator Temp	123.1 °F

UNIT DATA	
Compressor Model	8K0
Anti-Recycle	00100100
Com Runtime	1.1 hrs
KWH Consumed	1220.6 KWH
Refrigerant	R717
Booster HI Stage Cap Mode	
Fixed Oil Operation	
Software Revision	2.7
Factory Confirm Res	1.0
Comment Network	11101
Dipswitch SW6	00100000
Power Fail Reset	Disabled

LONG TERM HISTORICAL					
SucP	DisP	ODPr	OILP	Fltr	
20.4	165	48.1	205	3.2	
20.4	165	48.1	205	3.2	
20.2	167	38.2	205	3.2	
19.9	168	37.2	205	3.2	
20.8	168	37.7	205	3.2	
Local Unit Run					
85/22/98 14:15:17					

HYDRO TESTS MENU	
1	Display
2	Display Led-Leds
3	Network Diagnostics
4	Inlet-Outlet
5	Analog Converters
6	4-20 mA Output
7	RS232/RS485 Comm.
8	Line Voltage
9	Min Amp Slide Valve
10	BERRM Test
11	DIP Switch
12	Rotary Switches
13	Real Time Clock

Use Up and Down Arrow Keys

MULTI-STEP RUN				
	OSP	OSP	OSP	OSP
2	1			Run
3			Hi75	Run
4		Low	Hi75	Run
5		High	Hi75	Run
6	Run	High	Hi75	Run

OPERATING PARAMETERS	
WEEK HOUR TOTTING	
Revised Metering	
41.0	504.4 KWH
110kWh Hour Sampling	
Period	15 Min
110kWh Hours	
Consumed	1241.8 KWH
HISTORICAL DATA	
Short-Term Sampling	
Period	30 Sec
Long-Term Sampling	
Period	15 Min
Reset Short-Term Trend	
(0=No Trend)	0

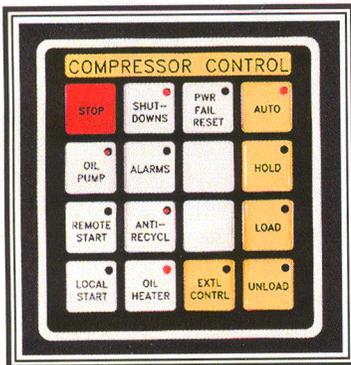
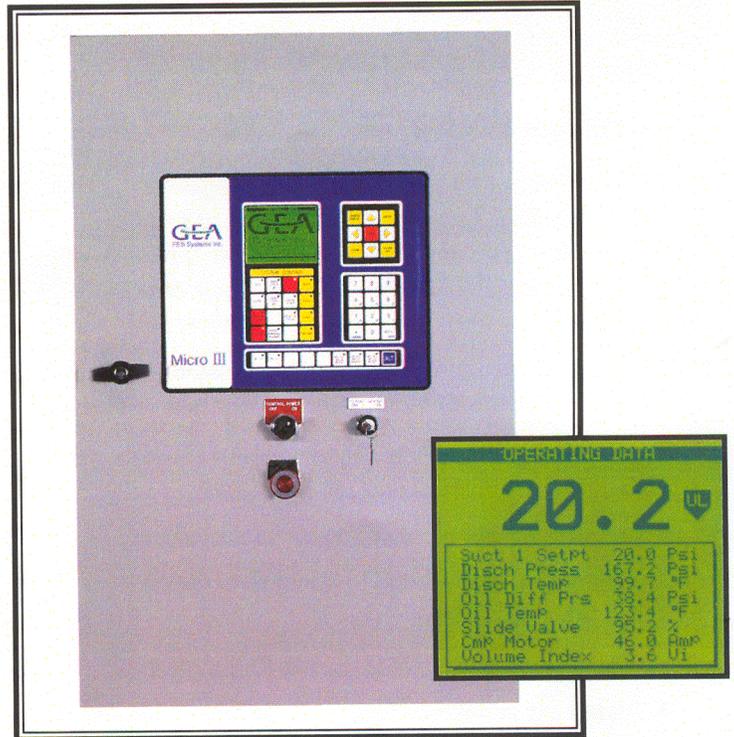
TEMPERATURE PARAMETERS	
IN SETUP	
Engine Room High HWT	
Alarm	160.0 °F
Engine Room Hi-H HWT	
Alarm	150.0 °F

## Micro III for Compressor Control

The Micro III Compressor Control Panel is designed to replace outdated, obsolete or ineffective controls on most brands of compressors, including dual and two-stage packages. Advanced microprocessor technology, user friendly operation, advanced service features, easy installation and unparalleled interface capabilities make the Micro III the preferred refrigeration compressor control.

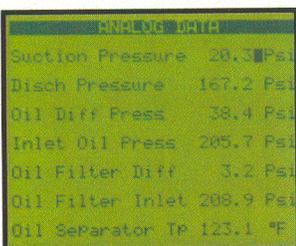
### Easy To Operate

Keypad and Graphic Display are large, clear and easy to understand. The Compressor Control Keys each include individual LED's that light to always show the operating status of the compressor. The "Change Display" and Cursor (arrow) keys allow for efficient maneuvering between and within displays including Main Operating Data, Analog Data, Operating and Alarm Parameters (user setpoints), Historical Data, Compressor Data, Alarm messages, Shutdown messages and Diagnostics.

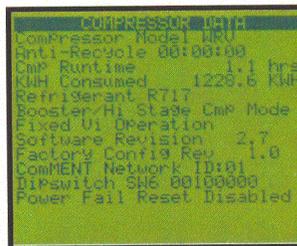


### Easy To Service

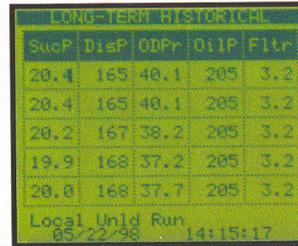
Built-in diagnostics software can quickly test the operation of hardware components including the display, keypad, I/O and communications interface. Alarm and Shutdown conditions are immediately and clearly annunciated by a flashing LED on the "Shutdown" or "Alarm" push button. Depressing the push button will immediately display a screen which lists descriptive and time stamped alarm and shutdown messages. Historical data displays, both short term and long term, allow the operator to view past analog parameters and compressor status at user selected time intervals and alarm events. And hardware enhancements including analog sensor overcurrent protection and FES' minimal component design further simplify operational troubleshooting (see Form No. 810G for more hardware details).



Suction Pressure	20.3 Psa
Disch Pressure	167.2 Psa
Oil Diff Press	38.4 Psa
Inlet Oil Press	285.7 Psa
Oil Filter Diff	3.2 Psa
Oil Filter Inlet	288.9 Psa
Oil Separator TP	123.1 °F

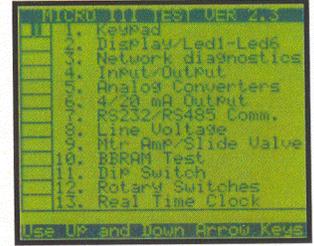


Compressor Model	MSU
Anti-Recycle Model	00:00100
Comp Runtime	1.1 hrs
kWh Consumed	1226.6 kWh
Refrigerant	R717
Booster-HI Stage Comp Mode	Fixed-UI Operation
Software Revision	2.7
Factory Config Rev	1.0
COMMENT Network ID:01	
DiSwitch SW6	00100000
Power Fail Reset	Disabled



SucP	DisP	ODPr	OilP	Fltr
20.4	165	40.1	205	3.2
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Local Unld Run  
05/22/95 14:15:17

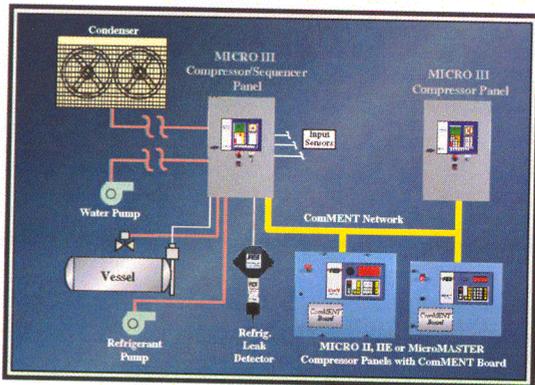


1.	Keypad
2.	Display/Led-Leds
3.	Network Diagnostics
4.	Input-Output
5.	Analog Converters
6.	4-20 mA Output
7.	RS232/RS485 Comm.
8.	Line Voltage
9.	Ptr AMP/Slide Valve
10.	RBRAM Test
11.	DIP Switch
12.	Rotary Switches
13.	Real Time Clock

Use UP and Down Arrow Keys

### Easy To Install

Each panel is supplied with mounting bolts, vibration isolators and a retrofit installation manual complete with installation and electrical drawings. New Pressure and Temperature sensors are also included as "standard". A typical screw compressor application includes ICTD temperature probes with wells (shipped loose) for suction, discharge, oil separator, and inlet oil temperatures and pressure transducers for suction, discharge, inlet oil, and oil filter inlet pressures. Pressure transducers are mounted under the panel and are factory wired to the Micro III processor. Number and configuration of sensors can vary depending upon specific application.



## Easy To Interface

With optional digital I/O features, the panel can provide numerous outputs indicating the current compressor status such as shutdown, operating in "remote" mode, etc. The panel can also be configured with inputs enabling such things as capacity mode changes, starting, slide valve control, etc. Better yet, virtually all control functions and operating parameters which are available using the display and keypad can also be accessed remotely using FES' built-in ComMENT network. Add a ComMENT Gateway to the network for a sophisticated yet simple interface with Supervisory Systems such as FES' MicroLINK or various manufacturers' DCS systems. (Refer to ComMENT Network Brochure Form No. 810C for additional information).

## Other Options For Extreme Flexibility

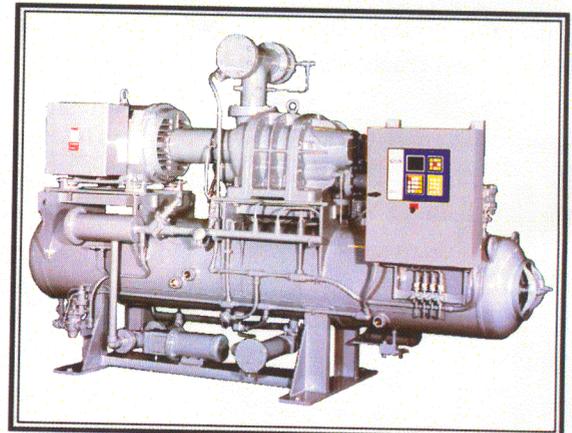
Micro III Compressor Control Panels can be configured to perform a multitude of additional functions such as compressor sequencing via FES' ComMENT Network communications, (up to four compressors on one suction level), condenser control (up to six devices), ammonia detector monitoring, vessel control, etc. Typically 6 analog inputs, 4 analog outputs, and as many as 32 digital I/O are unused and available on each Micro III screw panel. These can be configured for almost any use. (Refer to Micro III System Panel Brochures for additional information on sequencing, condenser control and miscellaneous functions). Other options include:

- Oversized Enclosure (required if many additional relays, switches, etc. are used for a custom application)
- Package Modification Kit with tubing and fittings (help out the installation process)
- 40 Module Digital I/O rack (22 is standard)
- Special Paint (for OEM equipment or customer specs)
- Hand-Off-Auto Switches (an extension to the 40 module rack)
- Keypad Lockout
- Additional Auxiliary Shutdown and Alarm Inputs
- Almost any customized monitoring or control function

CONDENSER SETUP				
	DSF	USF	PNP	
2	1		Run	Run
3			Run	Run
4	Low		Run	Run
5	Hi 9h		Run	Run
5	Run	Hi 9h	Run	Run

OPERATING PARAMETERS	
DEMAND MONITORING	
Demand Metering	
Fail to	504.4 kWh
1 kilowatt Hour Sampling	
Period	15 Min
1 kilowatt Hours	
Consumed	1241.8 kWh
HISTORICAL DATA	
Short-Term Sampling	
Period	30 Sec
Long-Term Sampling	
Period	15 Min
Reset Short-Term Trend	0
(0=No/1=Yes)	

ALARM PARAMETERS	
NO SENSOR	
Engine Room High NH3	
Alarm	50.0 ppm
Engine Room Hi-Hi NH3	
Alarm	150.0 ppm



## Built For Tough Environments

Weatherproof NEMA 4 enclosure is standard. Options include NEMA 4X (Stainless Steel or FRP Fiberglass enclosure) and Class 1, Division 2 (with Type Z air purge). Class 1, Division 1 service, panel heating or cooling and other special environmental needs can also be accommodated.

## Specifications:

- Power requirements: 90-230 VAC, 50/60 Hz, 3KW typical (includes power requirements for two 1200 watt screw compressor oil heaters)
- Dimensions: 24" w x 30" h x 8" d (61cm x 76cm x 20cm); Approximate weight of standard panel: 90 lbs (41 kg)

Refer to Micro III Control Panel Brochure (Form No. 810G) for additional hardware technical details.