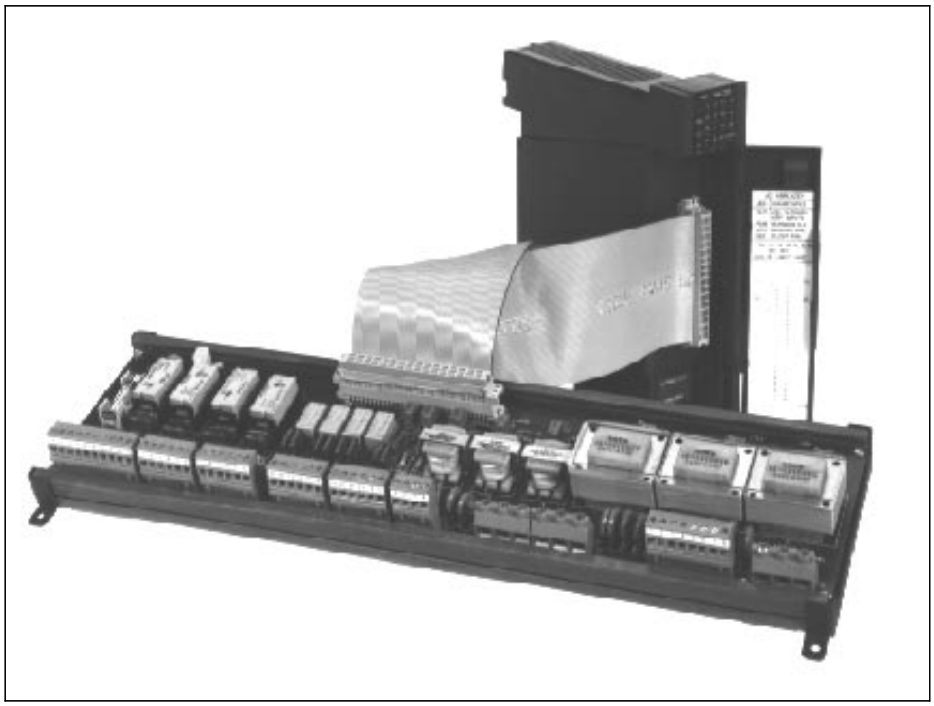
AC Analyzer Module

for the MOSCAD RTU

FEATURES/BENEFITS

The AC Analyzer module is an accessory to the MOSCAD RTU family that permits the direct measurement of 3-phase AC power. A termination panel is provided that contains the required PT and CT transformers for nominal 115 Vac and 5 Aac inputs. The module contains a high-speed digital signal processor and measures the ac voltage and current 32 times each second, then calculates the values shown in the Table of Available Data.



Data Input

Under the control of the defined Application Program, the CPU module in the RTU will read the present instantaneous values of the required voltage and current and calculate power factor, V-A, KW, etc. data and move that data from the AC Analyzer module into the CPU module via the motherboard.

◆ *This data may then be used by the Application Program in the required manner to perform the desired functions.*

Data Output

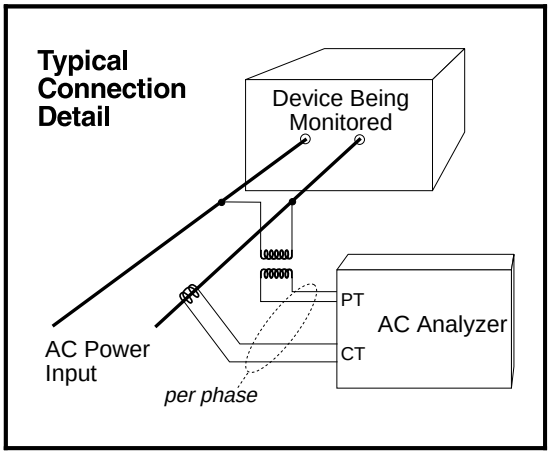
The available relays are both magnetically-latched—they retain their last state should power be interrupted—and electrically-energized. Both 2 amp and 8 amp relays are provided.

◆ *These relays may be used to control other on-site electrical devices as required by the application.*

Physical

The module consists of two physical assemblies connected together by a one meter long low voltage/current cable. The module portion is packaged in a plastic housing that plugs and locks into the motherboard. The termination panel portion may be mounted on any available flat panel; installation into the RackMount RTU configuration is suggested.

◆ *All field wiring (14 ga. maximum) to/from the monitored field device(s) connects to the termination panel to provide protection for service personnel in accordance with normal National Electrical Code principles.*



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Specifications

Order	Plant installed: Field installed:	V464 Module: FRN1988; Termination panel & cable: FLN2031
Capacity	3-phase AC PT & CT; 8 isolated discrete voltage inputs (DI); 8 discrete outputs (DO)	
AC Inputs	PT: CT:	0-157 Vac ± 0.5% FS 1-12.5 Aac ± 0.5% FS
Digital Inputs	<3.5 Vac = logic 0, >8 Vac = logic 1 (28 Vac maximum); opto-isolated	
Digital Outputs	2 Form C @ 2 amp, 250 VA electrically energized 2 Form C @ 2 amp, 250 VA magnetically latched 2 Form C @ 8 amp, 2000 VA electrically energized 2 Form C @ 8 amp, 2000 VA magnetically latched	
Diagnostic	20 LEDs:	6 for AC Voltage & Current inputs, 8 for DI/DO, 1 each for Module Fail and No Clock
Power	5 Vdc: 12 Vdc:	530 ma 450 ma (490 ma with LEDs on)
Environment	Humidity: Temperature:	0 to 90% @ +50°C -30 to +60°C

Module Connections

Connector	**Function**		**Connector**	**Function**
J3 -1	In 1		J4A-1	K8 com (8A ML)
-2	In 2		-2	K8 NC
-3	In 3		-3	K8 NO
-4	In 4		-4	K7 NO (8A ML)
-5	com 1-4		-5	K7 NC
-6	In 5		-6	K7 com
-7	In 6		J4B-7	K6 com (8A EE)
-8	In 7		-8	K6 NC
-9	In 8		-9	K6 NO
-10	com 5-8		-10	K5 NO (8A EE)
			-11	K5 NC
J8 -1	V3 hot		-12	K5 com
-2	V3 return		J4C-13	K4 com (2A ML)
-3	V2 hot		-14	K4 NC
-4	V2 return		-15	K4 NO
-5	V1 hot		-16	K3 NO (2A ML)
-6	V1 return		-17	K3 NC
			-18	K3 com
J6 -1	I3 out		J4D-19	K2 com (2A EE)
-2	I3 in		-20	K2 NC
-3	I2 out		-21	K2 NO
-4	I2 in		-22	K1 NO (2A EE)
-5	I1 out		-23	K1 NC
-6	I1 in		-24	K1 com

Table of Available Data

Value Inputs (per Phase)	**Common Value Inputs**
V_{rms}	V_{bat}
I_{rms}	Temperature
Power (real power)	V_{scale} (default: 10,000)
VA (apparent power)	I_{scale} (default: 10,000)
VAR (reactive power)	P_{scale} (default: 10,000)
Power Factor	EXCEED
	$V_{threshold}$ (default: 0.6)
	$I_{threshold}$ (default: 0.05)
	Frequency (to 0.01 Hz)
Phase	Average Time (1-15 sec)
Energy (in Power * hour)	**Common Value Outputs**
V_{avg} (in Average Time interval)	V_{scale}
I_{avg} (in Average Time interval)	I_{scale}
P_{avg} (in Average Time interval)	$Power_{scale}$
VA_{avg} (in Average Time interval)	$V_{threshold}$
VAR_{avg} (in Average Time interval)	$I_{threshold}$
PF_{avg} (in Average Time interval)	Average Time