Paperless Recorder Advanced Recorder ARF106/112

ARF106/112 Paperless Recorders feature a highly visible 5.6-inch TFT color LCD, incorporate advanced functions, are easy to use, and are network-compatible.
A sampling rate of 100 ms for all 12 channels and a precision of ±0.1% are achieved, and measured data can be stored in internal memory or on a CF (CompactFlash) card. Ethernet compatibility enables monitoring in a web browser running on PCs on the network. Also, the ARF can send (or the user can retrieve) data files by FTP, and the ARF can send notifications by e-mail. An option allows connection to, and data collection from, Network Instrumentation Modules.

Specifications

Input	Input type	DC voltage, DC current, thermocouple, resistance thermometer detector (see Input list)*1
	Number of input channels	6 or 12
	Input measurement cycle	Approx. 100 ms for all inputs
Display	Display	5.6-inch TFT color LCD
	Display type	Measurement data displays (trend display, numerical value display, bar graph display) Historical trend displays (can be displayed simultaneously with real-time trends) Information displays (alarm display, marker list, file list) Settings screens (alarms, arithmetic operations, memory, system, maintenance, communications, etc.)
Recording	Internal memory	Flash memory (capacity: 4 MB)
	External memory	CF (CompactFlash) card (capacity: 128 MB to 2 GB)
	Recording cycle	100, 200, 500 ms*2 1, 2, 3, 5, 10, 15, 20, 30 s 1, 2, 3, 5, 10, 15, 20, 30, 60 min
	Recorded data	Measurement data: file name (group name), recording start date/time, tag, measurement data, alarm status, type, setting parameters
Computation	Number of operations	Max. 44
	Operation type	**Arithmetic operations:** addition, subtraction, multiplication, division, residue, power **Comparison operations:** equal to, not equal to, greater than, less than, equal to or greater than, equal to or less than **Logical operations:** AND, OR, exclusive OR, NOT **General functions:** rounding up to nearest integer past decimal point, discarding digit past decimal point, absolute value, square root, power of e, natural logarithm, common logarithm **Integration operations:** analog integration, digital integration **Channel data operations:** operations on measured data, operations on operation results
Alarm functions	Number of settings	Max. 4 settings for each channel
	Alarm types	Upper limit, lower limit, diff. upper limit, diff. lower limit (dead band can be set), error data
Communication specifications	Network	Ethernet (10BASE–T/100BASE–TX)
	USB	USB1.1
Option specifications	Alarm relay outputs	Relay contacts are output at alarm generation and input errors Number of outputs: 12
	Non-voltage contact inputs (8) + Alarm MOS relay outputs (8)	**Contact input functions:** contact inputs, pulse inputs, integration reset, marker write, start/stop record to data file in internal memory **Alarm functions:** relay contacts are output at alarm generation and input errors **Number of outputs:** 8
	Network Instrumentation Module communication (Ethernet)	Connecting Network Instrumentation Modules via Ethernet and displaying and recording of data from them (Max. 16 modules)
General specifications	Rated power supply voltage	100 to 240 Vac 50/60 Hz
	Max. power consumption	50 VA (DO-ON in all channels, 240 Vac)
	Weight	Approx. 2.2 kg

*1. DC current input is supported by adding an external reception resistor.
*2. When recording at a cycle of 100, 200 and 500 ms, up to 3 groups of 12 channels/group can be registered.
When recording at a cycle of 1 s or more, up to 5 groups of 44 channels/group can be registered.
(A total of 100 channels can be registered.)

Input list

Input type	Measurement range
DC voltage	±13.80 mV to ±2.000 V
(Resistor divider built-in)	±5.000 V to ±50.00 V

Input type	Symbol
Thermocouple	K, E, J, T, R, S, B, N, W-WRe26
	WRe5-WRe26, PtRh40-PtRh20,
	Ni·Mo-Ni, CR-AuFe, PlatinelII, U, L

Input type	Symbol
Resistance thermometer detector	Pt100, JPt100, Pt50, Pt-Co

Standards for input sensor
Thermocouple K, E, J, T, R, S, B, N: IEC584, JIS C1602-1995
W-WRe26, WRe5-WRe26, PtRh40-PtRh20, Platinel II, Ni·Mo-Ni
CR-AuFe: ASTM Vol14.03
WRe5-26: ASTM E988-90
U (Cu-CuNi), L (Fe-CuNi): DIN43710
Resistance thermometer detector Pt100: IEC751 (1995), JI S C1604-1997, JPt100: JIS C1606-1989

Model No. configuration

Ex.: ARF106AS00000

Basic model No.	Power supply voltage	Input	Additional function 1	Additional function 2	Additional function 3	Additional treatment 1	Additional treatment 2	Description
ARF106								6 inputs, CF card (128 MB) provided
ARF112								12 inputs, CF card (128 MB) provided
	A							100 to 240 Vac 50/60 Hz
		S						Standard multi-input (input cycle 100 ms)
			0					None
			1					12 relay outputs (1a contacts)
			7					Non-voltage contact inputs (8) + Alarm MOS relay outputs (8)
				0				None
				3				Network Instrumentation Module communications (Ethernet)
					0			None
						0		None
						D		Inspection certificate
						T		Tropical treatment
						B		Tropicalization treatment + inspection certificate
						Y		Supports traceability certification
							0	None

Optional Parts (Separately Sold)

Name	Model No.
CF (CompactFlash) card 128 MB	ARF910CF0128
CF (CompactFlash) card 256 MB	ARF910CF0256
CF (CompactFlash) card 512 MB	ARF910CF0512
CF (CompactFlash) card 1 GB	ARF910CF1000
CF (CompactFlash) card 2 GB	ARF910CF2000

Name	Model No.
CF (CompactFlash) card adapter for PC	ARF910ADP000
ARF Data Analysis Tool	ARF990DA0000
250 Ω resistor, accuracy ±0.02%, 1 pc	81401325
250 Ω resistors, accuracy ±0.05%, 2 pcs	81446642-001

Paperless Recorder Advanced Recorder ARF106/112

External dimensions

(Unit: mm)