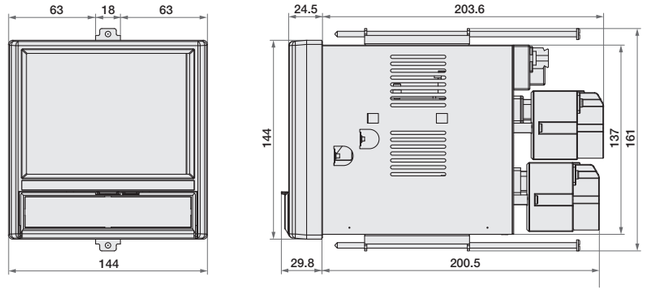
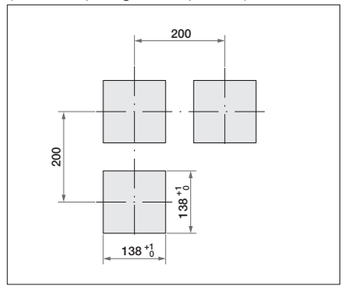
External dimensions

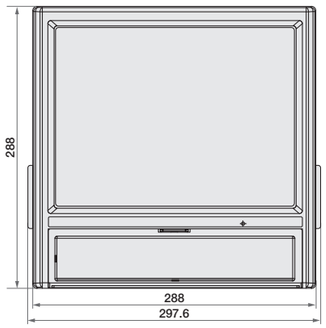
Model ARF100 (Unit: mm)

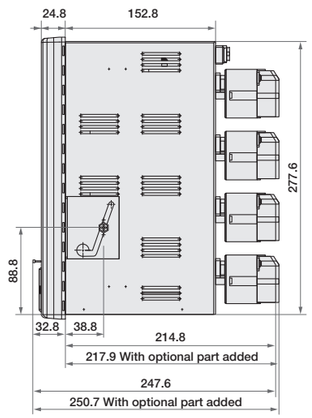


Panel cut diagram
(minimum spacing for multiple units)

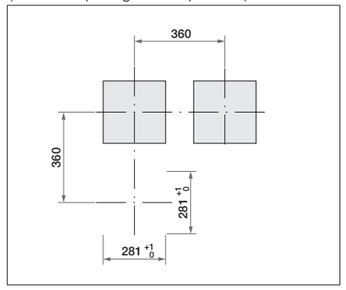


Model ARF200 (Unit: mm)





Panel cut diagram
(minimum spacing for multiple units)



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Azbil Corporation
Advanced Automation Company

1-12-2 Kawana, Fujisawa
Kanagawa 251-8522 Japan
URL: https://www.azbil.com

1st Edition: Mar. 2011-JBA
3rd Edition: Feb. 2023-AZ

azbil

Paperless Recorder

Model ARF100/200

Advanced network applications

PC data management

Remote monitoring

Azbil Corporation

Paperless recorder with network and other enhanced functionality can be used in any field

Model ARF100/200 series paperless recorder is user-friendly, with versatile recording forms and display functions. It has a high-speed data collection rate of 100 ms and accuracy level of ±0.1%, and is equipped with functions useful in many fields, such as Ethernet connectivity, USB port and CF card slot.
In addition to recording, it can be used for tasks such as remote monitoring, sending e-mail reports in emergencies, automated data transfer, and distributed remote measurement.

Ready-to-use advanced functions in a compact unit.

Model ARF100

Model ARF200

Designed for ease of use and easy viewing

- Setup so simple, you won't need the manual
- Smooth touch-panel operation (model ARF200 only)
- Display has high visibility for use in the field

High performance and expandability

- High-speed sampling with high accuracy
- Selectable recording modes and data formats
- Handles conventional chart recorder functions
- Fully equipped with calculation functions

Enhanced network functionality

- Ready-to-use communication functions
- Compatible with LAN environments
- Number of channels can be expanded with Network Instrumentation Modules (optional)

Quick overview of functions

	Input channels	Measurement cycle	External dimensions	Display device	Touch panel	Ethernet	CF card I/F	USB
Model ARF100	6/12 ch.	100 ms/ all ch.	W144×H144×D234 mm	5.6 TFT color LCD	—	○	○	Slave (connected to PC)
Model ARF200	12/24/36/48 ch.	100 ms/ all channels*	W288×H288×D251 mm	12.1 TFT color LCD	○	○	○	Host (USB memory connection)

*With measurement cycle specification of 100 ms

Model ARF100

144×144 mm
100 ms / max. 12 channels

High-quality, easy-to-view screen and a host of functions with easy-to-use operation

Ethernet-ready

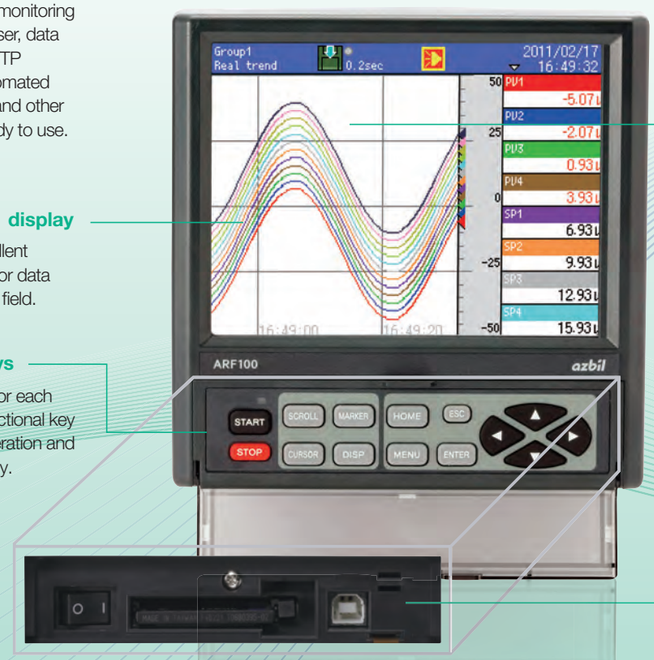
Ethernet port is a standard feature. Remote monitoring with a web browser, data transfer with an FTP client/server, automated e-mail reporting and other functions are ready to use.

5.6” TFT LCD display

Display has excellent visibility—made for data monitoring in the field.

Operation keys

Dedicated keys for each function, and functional key layout, make operation and configuration easy.



Simultaneous display of 44 items
High-speed trend display

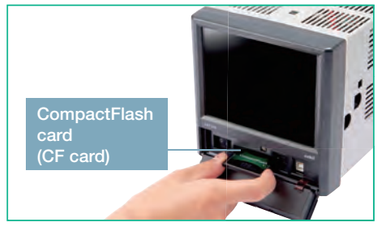
Diverse display functions handle various kinds of data monitoring. Simultaneous trend display of up to 44 data measurement inputs.

Front USB port, CompactFlash card slot and power switch.

Operation is simple even with other equipment connected.

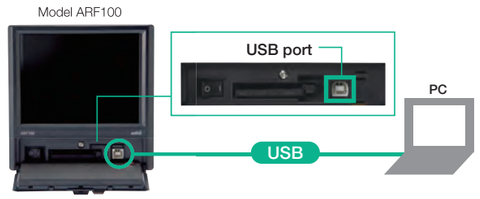
A variety of interfaces is standard.

Recorded data can be retrieved easily.



Front CompactFlash card slot. Data can be backed up “as is” to a PC.

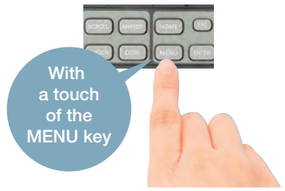
File read-out from the USB port.



Data on a CF card or setup files can be read from a PC using the USB port (model ARF100 only).

Functional layout of dedicated keys and menus

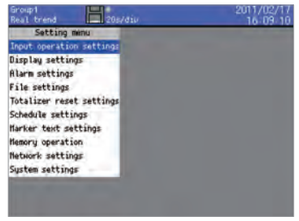
Easy to use, no manual needed



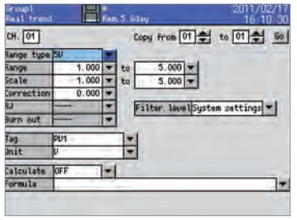
Ease of use and viewing

Designed for easy operation and setup

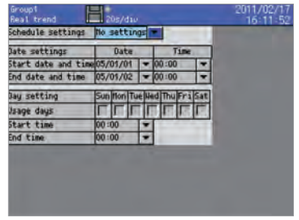
With the MENU key, anyone can set up and operate easily.



Selecting an item for setup



Input and calculation settings



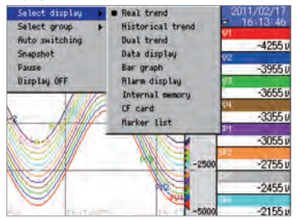
Schedule settings

Viewer- and user-friendly display design

Display is easy to view in the field

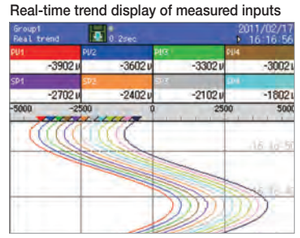
Screen type selection to fit any application

Display selection screen



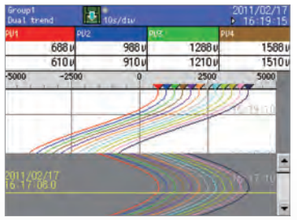
Real-time trend screens

Real-time trend display of measured inputs



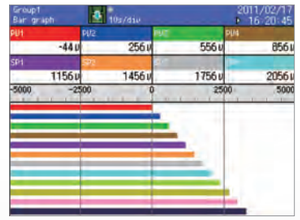
Dual trend screens

Display historical and real-time trends simultaneously



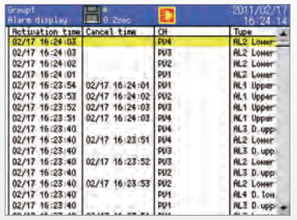
Bar graph display

Real-time bar graph display of measured inputs



Alarm display

Time of occurrence/recovery, type of alarm



Data display

Real-time numerical display of measured inputs

Model ARF200

288×288 mm
100 ms / max. 48 channels

Multiple channels, ease of use, large touch-panel display—designed for use in the field!

12.1" TFT LCD

Large display with excellent visibility. Easy to view, even when divided into four.

Touch-panel (model ARF200 only)

Touch-panel is overlaid on the LCD. Changing the screen type, scrolling, character input, parameter configuration and other operations can be done using the touch-panel.

Front USB port, a CompactFlash card slot and power switch.

Operation is simple even with other equipment connected.

Ethernet-ready

The Ethernet port is a standard feature. Remote monitoring on a web browser, data transfer with an FTP client/server, automated e-mail reporting and other functions are ready to use.

Simultaneous display of up to 56 items

Diverse display functions handle various kinds of data monitoring. Simultaneous trend display of up to 56 items.

Operation keys

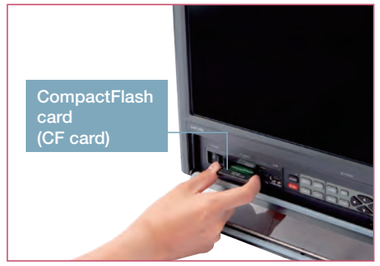
In addition to the touch-panel, each function has a dedicated key. Functional key layout makes operation and configuration easy.

USB port

Data can be saved to USB memory (model ARF200 only).

A variety of interfaces is a standard feature.

Recorded data can be retrieved easily.



Front CompactFlash card slot. Data can be backed up “as is” to a PC.

Copy data using a USB memory device.

Various other uses are possible (model ARF200 only).

- To connect a data recording medium other than a CF card
- To save differential data automatically when a USB memory device is inserted
- To copy all files recorded on the CF card to a USB memory device
- To read or write model ARF100/200 setup file

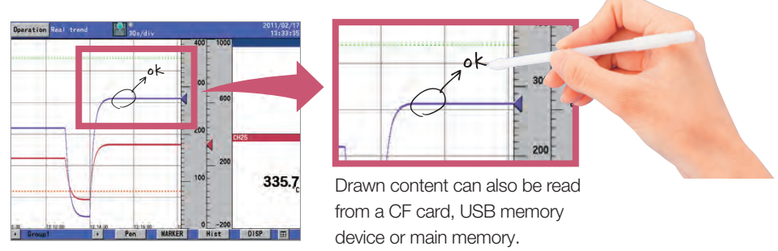
USB memory capability means users do not need a PC in the field, and CF cards need not be returned after data has been copied.

Intuitive operation and excellent recording performance

Smooth operation using the touch-panel

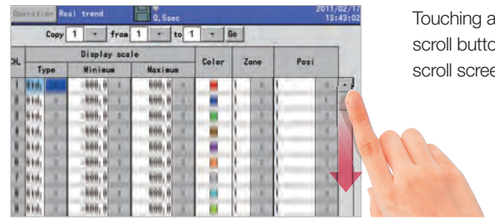
Ease of use and view

Touch pen allows users to write on the trend screen.



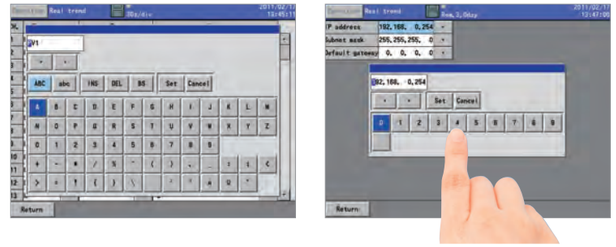
Drawn content can also be read from a CF card, USB memory device or main memory.

Users can scroll the screen by touching and dragging the scroll button.



Touching above or below the scroll button allows users to scroll screen by screen.

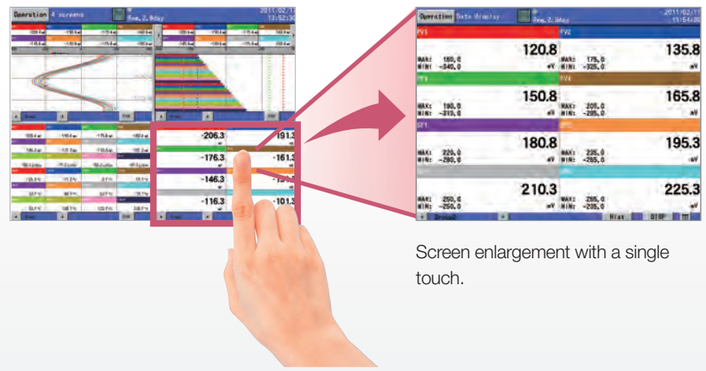
Touch panel allows exceptionally simple operation.



Browse various on-screen items at the same time

Applicable to a wide range of situations

Large screen is easy to read and holds lots of data.



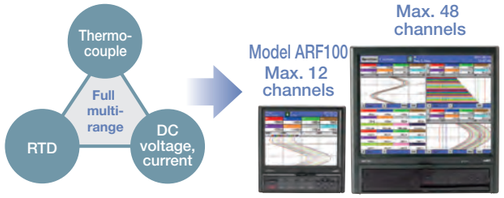
Screen enlargement with a single touch.

High performance and expandability

High-speed data collection and versatile recording and calculation functions

Multiple channels recorded at high speed with high accuracy

High-speed data collection at 100 ms on all channels. High accuracy of ±0.1%. Full multi-range input.



*An external resistor is used for DC current.

Versatile recording modes possible

Versatile recording modes can be selected for various applications. Data can be collected as suits the user.

Manual recording	Start/stop easily by pressing a key
Scheduled recording	Start/stop by day of the week, time, or date/time
Data recording pre-/post-trigger point	Pre-trigger recording function

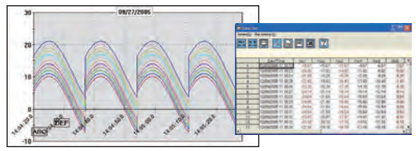
Large data-recording capacity

A large volume of data—up to 2 GB—can be recorded. Select whether to stop recording or overwrite oldest data when this limit is reached.

Recording channels	Capacity	Data recording cycle			
		100 ms	1 s	10 s	1 min
12	256 MB	Approx. 6 days	Approx. 2 months	Approx. 20 months	Approx. 10 years
48		Approx. 38 hours	Approx. 16 days	Approx. 5 months	Approx. 31 months
12	2 GB	Approx. 49 days	Approx. 16 months	Approx. 13 years	Approx. 81 years
48		Approx. 12 days	Approx. 4 months	Approx. 3 years	Approx. 20 years

Data analysis tool is available (optional extra)

- Display data from a CF card; process and edit waveforms
- Versatile graph display (vertical/horizontal, bar graphs, etc.)
- Save data in CSV or text format
- Search data
- Add comments to graphs



Selectable data format for saving

Data format when saving can be selected depending on the user's needs.

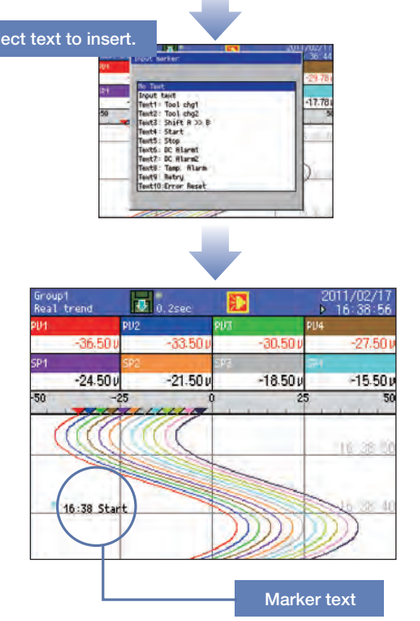
CSV format
Data can be opened directly with a general-purpose application (such as Excel). Data can be checked and edited.

Binary format*
Past data can be reproduced on model ARF100/200 screen (historical trends).

*Processing data on a PC requires dedicated data-analysis software.

Text can be added to screens

Useful marker text can be inserted on recorded screens. Fifty user-defined text patterns can be inserted with a touch.



*Text can also be input directly with the main operation keys.

Enhanced network functionality

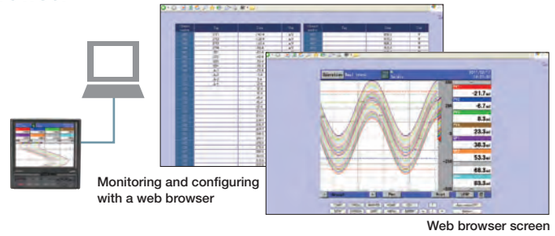
Remote monitoring and management of collected data

Ethernet, for more extensive application

Monitoring of collected data with a web browser

Web server functions

Collected data can be monitored on a PC web browser when model ARF100/200 are connected to a network. Naturally, remote monitoring of collected data can be done without any special application software. Also, model ARF100/200 can be connected to a PC with an Ethernet crossover cable.



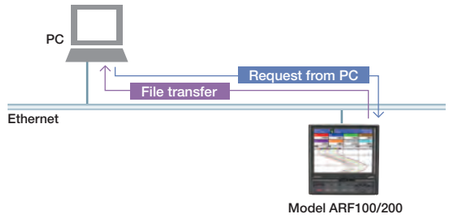
Collected data transferred by FTP

Data files on model ARF100/200 can be transferred upon demand from a PC.

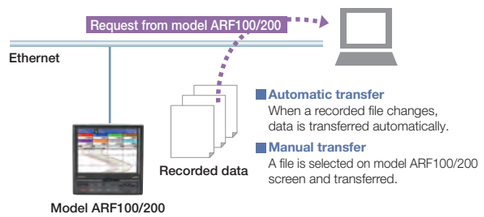
Recorded data can be transferred automatically or manually from model ARF100/200 to a PC server.

*FTP: File Transfer Protocol

FTP server functions

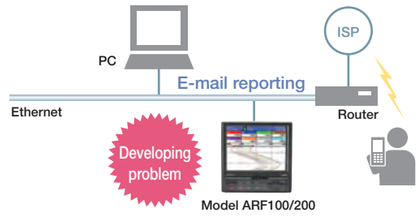


FTP client functions



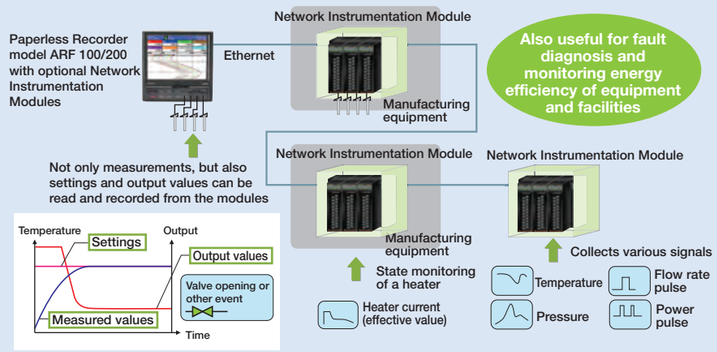
Security in emergencies, thanks to automatic e-mail notification of alarms

Alarms notification can be sent automatically by e-mail to users' cell phones or network PCs. Up to 8 mail addresses can be registered to receive reports.



Channel expansion and distributed remote measurement

With optional Ethernet-capable Network Instrumentation Modules, data from a module can be recorded via the network. With a distributed arrangement, wiring can be minimized and unit channel price reduced while expanding the number of measurement channels.



Specifications

Item		Description
Input	Input type	DC current, DC voltage, thermocouple, resistance temperature detector *An external resistor is used for DC current.
	Input channel	Model ARF100: 6/12 channels Model ARF200: 12/24/36/48 channels
	Sampling rate	Model ARF100: about 100 ms for all channels Model ARF200 (100 ms specification): about 100 ms for all channels Model ARF200 (1 s specification): about 300 ms/all channels
	Accuracy rating	±0.1 % ±1 digit (with exceptions)
Display	Display	Model ARF100: 5.6 TFT color LCD Model ARF200: 12.1 TFT color LCD
	Display type	• Measured data (trend display, numerical display, bar graph display) • Historical trend display (can be displayed simultaneously with real-time trend) • Information display (alarm display, marker list, file list) • Settings screen (alarm, calculation, memory, system, maintenance, communication, etc.)
	LCD backlight	Automatic/manual OFF function, brightness adjustable to 4 levels Backlight brightness half-life: about 5 years
Recording	Internal memory	Model ARF100: flash memory (capacity: 4 MB) Model ARF200: flash memory (capacity: 8 MB)
	External memory	CF (CompactFlash) card (capacity: 256 MB to 2 GB)
	Recording period	100, 200, 500 ms*1) 1, 2, 3, 5, 10, 15, 20, 30 s 1, 2, 3, 5, 10, 15, 20, 30, 60 min *1) Model ARF100: For recording periods of 100, 200, or 500 ms, up to 3 groups with 12 channels per group can be registered. For recording periods of 1 s or longer, up to 5 groups with 44 channels per group can be registered (a total of up to 100 registered channels). Model ARF200: Six groups with 56 channels per group can be registered, irrespective of the recording cycle (a total of up to registered 128 channels).
	Recorded data	File name (group name), recording start date and time, tag, measured data, state and type of alarm, marker text, setting parameter
	File format (when saving)	Binary*2)/CSV format can be selected for each group. *2) Processing binary data on a PC requires an optional data analysis tool.
	Saving options	Manual start/stop, schedule, trigger signal (alarm, contact input), data recording pre-/post-trigger point
Calculation	Calculation points	Model ARF100: max. 44 channels Model ARF200: max. 128 channels
	Calculation types	Arithmetic/comparison/logical operations, general functions, integration, channel data operations, dew point, relative humidity, F value, remaining CF card capacity, etc.
Alarm functions	Number of settings	Up to 4 per input channel
	Alarm types	High limit, low limit, differential high limit, differential low limit, abnormal data
	ON delay	Delay time setting range: 1 to 3600 s
	Alarm outputs	AND/OR setting possible
Communication functions	External memory	Ethernet (10 BASE-T/100 BASE-T)
	FTP server	Data files read from a PC over a network
	FTP client	Data files transferred to a server over a network
	SNTP client	Time synchronized with an SNTP server over a network
	Web server	In conformity with HTTP 1.0: measured data, alarms, etc. displayed/set with browser software
	E-mail	E-mail reporting at the time of alarm occurrence or at designated time, Up to 8 addresses
	Network Instrumentation Modules (optional)	Data from an Ethernet-connected Network Instrumentation Module read remotely and recorded
General specifications	Rated supply voltage	100 to 240 Vac, 50/60 Hz
	Maximum current consumption	Model ARF100: 50 VA Model ARF200: 65 VA
	Normal operating conditions	Ambient temperature/humidity: 0 to 50 °C, 20 to 80 % RH Supply power voltage: 90 to 264 Vac Supply power frequency: 50/60 Hz ±2 % Positioning: right, left, and forward tilt: 0°, backward tilt: 0 to 20° Warm-up time: min. 30 minutes
	Mass	Model ARF100: about 2.2 kg Model ARF200: about 7.2 kg
	Mounting method	Panel mount
Optional specifications	Alarm output	Mechanical relay output (contact forms A or C) upon alarm occurrence and abnormal input
	Alarm MOS relay output	MOS relay contact output upon alarm occurrence and abnormal input
	Non-voltage contact input	ON/OFF state recording, pulse input (up to 5 Hz), recording start/stop, marker write, integration operation reset, time correction
	Network Instrumentation Module (Ethernet) Communications	Data in an Ethernet-connected Network Instrumentation Module read remotely and recorded

Input list

Input type		Measurement range
DC voltage		±13.80 mV to ±2.000 V
(Voltage-dividing resistance is built-in)		±5.000 to ±50.00 V
Thermocouple	K	–200 to +1370 ℃
	E	–200 to +900 ℃
	J	–200 to +1200 ℃
	T	–200.0 to +400.0 ℃
	R	0 to 1760 ℃
	S	0 to 1760 ℃
	B	0 to 1820 ℃
	N	–200 to +1300 ℃
	W-WRe26	0 to 2315 ℃

Input type		Measurement range
Thermocouple	WRe5-WRe26	0 to 2315 ℃
	PtRh40-PtRh20	0 to 1888 ℃
	NiMo-Ni	–50 to +1310 ℃
	CR-AuFe	0.0 to 280.0 K
	Platinel II	0 to 1395 ℃
	U	–200.0 to +600.0 ℃
	L	–200 to 900 ℃
Resistance temperature detector	Pt100	–200.0 to +850.0 ℃
	JPt100	–200.0 to +649.0 ℃
	Pt50	–200.0 to +649.0 ℃
	Pt-Co	4.0 to 374.0 K

Model number of ARF100

I	II	III	IV	V	VI	VII	VIII	Description
Basic Model No.	Power supply	Input	Optional function 1	Optional function 2	Optional function 3	Additional treatment 1	Additional treatment 2	
ARF106								6 inputs
ARF112								12 inputs
	A							100 to 240 Vac, 50/60 Hz
		S						Standard multi-input (100 ms specification)
			0					None
			1					12 relay outputs (1A contacts)
			7					8 digital inputs + 8 MOS relay alarm outputs
				0				None
				3				Network Instrumentation Module (Ethernet) communications
					0			None
						*1 0		None
						D		With inspection results
						Y		With traceability certification
							0	None

*1 Additionally, tropicalization and anti-sulfidation treatments can be ordered.
However, there are some specifications restrictions. For details, contact the azbil Group.

Model number of ARF200

I	II	III	IV	V	VI	VII	VIII	Description
Basic Model No.	Power supply	Input	Optional function 1	Optional function 2	Optional function 3	Additional treatment 1	Additional treatment 2	
ARF212	A	S						12 inputs, 100 to 240 Vac, 50/60 Hz Standard multi-input (100 ms specification)
ARF224	A	S						24 inputs, 100 to 240 Vac, 50/60 Hz Standard multi-input (100 ms specification)
ARF236	A	S						36 inputs, 100 to 240 Vac, 50/60 Hz Standard multi-input (100 ms specification)
ARF248	A	S						48 inputs, 100 to 240 Vac, 50/60 Hz Standard multi-input (100 ms specification)
ARF212	A	L						12 inputs, 100 to 240 Vac, 50/60 Hz Standard multi-input (1 s specification)
ARF224	A	L						24 inputs, 100 to 240 Vac, 50/60 Hz Standard multi-input (1 s specification)
ARF236	A	L						36 inputs, 100 to 240 Vac, 50/60 Hz Standard multi-input (1 s specification)
ARF248	A	L						48 inputs, 100 to 240 Vac, 50/60 Hz Standard multi-input (1 s specification)
			0					None
			1					12 relay outputs (A contacts)
			2					6 relay outputs (C contacts)
			3					24 relay outputs (A contacts)
			4					12 relay outputs (C contacts)
			5					18 relay outputs (12 A contacts + 6 C contacts)
			A					8 digital inputs
			B					8 digital inputs + 12 relay outputs (A contacts)
			C					8 digital inputs + 6 relay outputs (C contacts)
			D					8 digital inputs + 24 relay outputs (A contacts)
			E					8 digital inputs + 12 relay outputs (C contacts)
			F					18 relay outputs (12 A contacts + 6 C contacts)
				0				None
				3				Network Instrumentation Module (Ethernet) communications
					0			None
						*1 0		None
						D		With inspection results
						Y		With traceability certification
							0	None

*1 Additionally, tropicalization and anti-sulfidation treatments can be ordered.
However, there are some specifications restrictions. For details, contact the azbil Group.

Model number of related parts

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

*1 There are some specifications restrictions. For details, contact the azbil Group.

Name	Model No.
ARF series data analysis tool	**ARF990DA0000**
250 Ω resistor (1), ±0.02 % accuracy	**81401325**
250 Ω resistors (2), ±0.05 % accuracy	**81446642-001**