

Panel Mounting Type Indicator REX-AC/DP Series



REX-AC110/410

REX-DP110/410



General Description

The REX-AC110/410 Digital Indicator series come in 1/16 and 1/8 DIN sizes. This series has up to 3 user programmable alarms in a 1/16 DIN or 4 alarms in the 1/8 DIN package, including an alarm interlock. The alarm interlock works like a high limit device. It features dual displays for easy programming and has an option for monitoring multiple inputs. The REX-AC110/410 match the physical appearance of the Century series controllers (REX-C100/C400/C410/C700/C900) and blend well into a panel.

The REX-DP110/410 Digital Indicators are economical priced and used where alarms are not needed. They also match the Century series controllers in appearance.

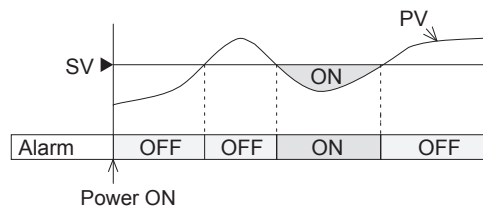
Features

- ☆ Cost effective
- ☆ Up to 4 alarms available
- ☆ Alarm interlock
- ☆ Can monitor multiple channels, using SP-4
- ☆ Colors match Century series controllers

Alarm Function (REX-AC Series : Optional)

Up to 4 alarms are available for the REX-AC410 (3 alarms for REX-AC110). Upon start-up, alarm action can be suppressed by the alarm hold function until the process value has entered the non-alarm range.

Example : Low alarm with hold



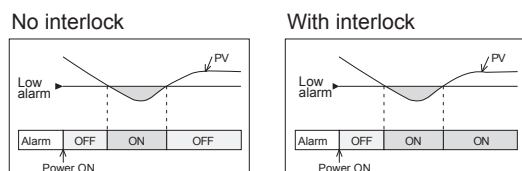
Two Sizes 1/16 DIN, 1/8 DIN

Two package sizes are available for both REX-AC and REX-DP Series.



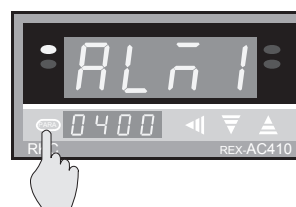
Alarm Interlock (Latch) Function (REX-AC Series : Optional)

An optional alarm interlock (latched) function is available for the REX-AC110/410. This function retains the alarm status until the interlock is reset, via front panel operation.



Easy Set-up (REX-AC Series)

The use of the independent second LED display for setting has improved the operability of REX-AC110/410.



Panel Mounting Type Indicator REX-AC/DP Series

Specifications

Input

<REX-AC Series>

Input

- a) Thermocouple : K, J, R, S, B, E, T, N (JIS/IEC), PLII (NBS)
W5Re/W26Re (ASTM), U, L (DIN)
- Influence of external resistance : Approx. 0.4 μ V/ Ω
 - Input break action : Up-scale
- b) RTD : Pt100 (JIS/IEC), JPt100 (JIS)
- Influence of lead resistance : Approx. less than 10 Ω
 - Input break action : Up-scale
- c) DC voltage input : 0 to 5V DC, 1 to 5V DC
- d) DC current input : 0 to 20mA DC, 4 to 20mA DC
- Input break action : Down-scale

Sampling Time

0.5 sec

PV Bias

Temperature input : -1999 (-199.9) to 9999 (999.9) $^{\circ}$ C [$^{\circ}$ F]
DC voltage, DC current : -1999 to 9999
(The decimal point position is same as PV)

<REX-DP Series>

Input

- a) Thermocouple : K, J, R, S, B, E, T, N (JIS/IEC), PLII (NBS)
W5Re/W26Re (ASTM), U, L (DIN)
- Influence of external resistance : Approx. 0.4 μ V/ Ω
 - Input break action : Up-scale
- b) RTD : Pt100 (JIS/IEC), JPt100 (JIS)
- Influence of lead resistance : Approx. less than 10 Ω
 - Input break action : Up-scale

Sampling Time

0.5 sec

Performance

<REX-AC Series>

Measuring Accuracy

- a) Thermocouple
 \pm (0.5% of PV + 1 digit) or \pm 3 $^{\circ}$ C (6 $^{\circ}$ F) whichever is larger
- Accuracy is not guaranteed between 0 and 399 $^{\circ}$ C (0 and 799 $^{\circ}$ F) for type R, S and B inputs.
- b) RTD
 \pm (0.5% of PV + 1 digit) or \pm 0.8 $^{\circ}$ C (1.6 $^{\circ}$ F) whichever is larger
- c) DC voltage and DC current
 \pm (0.5% of span + 1 digit)

<REX-DP Series>

Measuring Accuracy

- a) Thermocouple
 \pm (0.5% of PV + 1 digit) or \pm 3 $^{\circ}$ C (6 $^{\circ}$ F) whichever is larger
- Accuracy is not guaranteed between 0 and 399 $^{\circ}$ C (0 and 799 $^{\circ}$ F) for type R, S and B inputs.
- b) RTD
 \pm (0.5% of PV + 1 digit) or \pm 0.8 $^{\circ}$ C (1.6 $^{\circ}$ F) whichever is larger

<Common spec.>

Insulation Resistance

More than 20M Ω (500V DC) between measured terminals and ground
More than 20M Ω (500V DC) between power terminals and ground

Dielectric Strength

1000V AC for one minute between measured terminals and ground
1500V AC for one minute between power terminals and ground

Alarms (REX-AC series) (Optional)

<REX-AC Series only>

Alarm Function

- a) Number of alarms : Up to 4 points
(Up to 3 points in case of REX-AC110)
- b) Alarm action : Process (high, low)
- Alarm hold function is available.
 - Alarm interlock is available.
- c) Alarm differential gap : 0 to 100 $^{\circ}$ C ($^{\circ}$ F), 0.0 to 100.0 $^{\circ}$ C ($^{\circ}$ F)
or 0.0 to 100.0% of span

Alarm Output

Relay output, 250V AC 1A (resistive load), Form A contact

General specifications

Supply Voltage

- a) 90 to 264V AC (Including supply voltage variation)
[Rating : 100 to 240V AC] (50/60Hz common)
- b) 21.6 to 26.4V AC (Including supply voltage variation)
[Rating : 24V AC] (50/60Hz common)
- c) 21.6 to 26.4V DC (Ripple rate 10% p-p or less)
[Rating : 24V DC]

Power Consumption

<REX-AC Series>

Less than 10VA (100 to 240V AC)
Less than 4.0VA (24V AC)
Less than 120mA (24V DC)

<REX-DP Series>

Less than 6VA (100 to 240V AC)
Less than 2.0VA (24V AC)
Less than 50mA (24V DC)

Power Failure Effect

A power failure of 20msec or less will not affect the action.

Operating Environments : 0 to 50 $^{\circ}$ C [32 to 122 $^{\circ}$ F] , 45 to 85% RH

Memory Backup : Non-volatile memory.

Net Weight

REX-AC/DP110 : Approx. 140g
REX-AC/DP410 : Approx. 260g

External Dimensions (W x H x D)

- a) REX-AC/DP110 : 48 x 48 x 100mm
b) REX-AC/DP410 : 96 x 48 x 100mm

SP-4 input selector unit

Input

Thermocouples K, J, R, S, B, E, T, N and RTD Pt100, JPt100
Voltage and Current inputs.

Number of Inputs

Thermocouple, voltage/current : 6 points (4 points with transfer switch function)
RTD : 3 points (2 points with transfer switch function)

- SP-4 with transfer switch function is used when more than one SP-4 units are connected.

Display

24VDC of the power supply is required for LED lamps.

Performance of Switch

Switching life: 30,000 times
(at the operation speed of 70mm/sec).

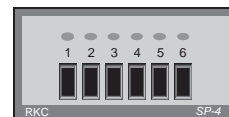
Contact resistance: 15 m Ω (initially), and less than 40 Ω after 30,000 switching operations.

Switching timing : Non-shooting
Switching force: Less than 800g, within \pm 30% of initial value after 30,000 switching operations.

Operating Environments : 0 to 50 $^{\circ}$ C [32 to 122 $^{\circ}$ F] , 45 to 85% RH

Net Weight

Approx. 300g



Model and Suffix Code Table

Specifications	Model and Suffix Code		
Model	SP-4	<input type="checkbox"/>	<input type="checkbox"/> * <input type="checkbox"/>
Input	Thermocouple	<input type="checkbox"/>	
	CK : K, CJ : J, CR : R, CS : S CB : B, CE : E, CT : T, CN : N		
	RTD DC voltage, current	R V	
TF (Transfer switch) function	None		N
	With TF (Transfer switch)		T
Type	Horizontal type		1
	Vertical type		2

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Model and Suffix Code

Specifications	Model and Suffix Code	
Model 4	AC110 AC410 DP110 DP410	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> * <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/>
Input and Range	See Range and Input Code Table	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Supply voltage	24V DC/AC 100 to 240V AC	3 4
Alarm 1 1, 3	No alarm See Alarm Code Table	<input type="checkbox"/> N
Alarm 2 1, 3	No alarm See Alarm Code Table	<input type="checkbox"/> N
Alarm 3 1, 3	No alarm See Alarm Code Table	<input type="checkbox"/> N
Alarm 4 1, 2, 3	No alarm See Alarm Code Table	<input type="checkbox"/> N

- ¹ Alarm is available only for REX-AC.
- ² Alarm 4 is available only for REX-AC410.
- ³ If alarm interlock is necessary for REX-AC, specify ZK-979 at the end of the model code.
- ⁴ If power supply for SP-4 LED is necessary for REX-DP410, specify Z-1008 at the end of the model code.

Safety Standards for REX-AC/DP Series : When specifying models with CE Mark, CSA Certification and UL Recognition add "/CE" to the model code.

Range and Input Code Table for REX-AC Series

Thermocouple

Input	Code	Range	Input	Code	Range
K	K : 01	0 - 200°C	E	E : 01	0 - 800°C
	K : 02	0 - 400°C		E : 02	0 - 1000°C
	K : 03	0 - 600°C		E : A1	0 - 1600°F
	K : 04	0 - 800°C		E : A2	0 - 1832°F
	K : 05	0 - 1000°C	N	N : 01	0 - 1200°C
	K : 06	0 - 1200°C		N : 02	0 - 1300°C
	K : 07	0 - 1372°C		N : A1	0 - 2300°F
	K : 13	0 - 100°C		N : A2	0 - 2372°F
	K : 14	0 - 300°C	T	T : 01	-199.9 - 400.0°C
	K : 20	0 - 500°C		T : 02	-199.9 - 100.0°C
	K : A1	0 - 800°F		T : 03	-100.0 - 200.0°C
	K : A2	0 - 1600°F		T : 04	0.0 - 350.0°C
	K : A3	0 - 2502°F		T : A1	-199.9 - 752.0°F
	K : A9	20 - 70°F	T : A2	-100.0 - 200.0°F	
J	J : 01	0 - 200°C	T : A3	-100.0 - 400.0°F	
	J : 02	0 - 400°C	T : A4	0.0 - 450.0°F	
	J : 03	0 - 600°C	T : A5	0.0 - 752.0°F	
	J : 04	0 - 800°C	W5Re W26Re	W : 01	0 - 2000°C
	J : 05	0 - 1000°C		W : 02	0 - 2320°C
	J : 06	0 - 1200°C		W : A1	0 - 4000°F
	J : A1	0 - 800°F	PL II	A : 01	0 - 1300°C
	J : A2	0 - 1600°F		A : 02	0 - 1390°C
	J : A3	0 - 2192°F		A : 03	0 - 1200°C
	J : A6	0 - 400°F	A : A1	0 - 2400°F	
R ¹	R : 01	0 - 1600°C	A : A2	0 - 2534°F	
	R : 02	0 - 1769°C	U	U : 01	-199.9 - 600.0°C
	R : 04	0 - 1350°C		U : 02	-199.9 - 100.0°C
	R : A1	0 - 3200°F		U : 03	0.0 - 400.0°C
R : A2	0 - 3216°F	U : A1	-199.9 - 999.9°F		
S ¹	S : 01	0 - 1600°C	U : A2	-100.0 - 200.0°F	
	S : 02	0 - 1769°C	U : A3	0.0 - 999.9°F	
	S : A1	0 - 3200°F	L	L : 01	0 - 400°C
	S : A2	0 - 3216°F		L : 02	0 - 800°C
B ¹	B : 01	400 - 1800°C		L : A1	0 - 800°F
	B : 02	0 - 1769°C	L : A2	0 - 1600°F	
	B : A1	800 - 3200°F			
B : A2	0 - 3308°F				

¹ Accuracy is not guaranteed between 0 and 399°C (0 and 799°F) for type R, S and B.

RTD

Input	Code	Range
Pt100	D : 01	-199.9 - 649.0°C
	D : 02	-199.9 - 200.0°C
	D : 03	-100.0 - 50.0°C
	D : 04	-100.0 - 100.0°C
	D : 05	-100.0 - 200.0°C
	D : 06	0.0 - 50.0°C
	D : 07	0.0 - 100.0°C
	D : 08	0.0 - 200.0°C
	D : 09	0.0 - 300.0°C
	D : 10	0.0 - 500.0°C
	D : A1	-199.9 - 999.9°F
	D : A2	-199.9 - 400.0°F
	D : A3	-199.9 - 200.0°F
	D : A4	-199.9 - 100.0°F
	D : A5	-100.0 - 300.0°F
	D : A6	0.0 - 100.0°F
	D : A7	0.0 - 200.0°F
	D : A8	0.0 - 400.0°F
	D : A9	0.0 - 500.0°F
JPt100	P : 01	-199.9 - 649.0°C
	P : 02	-199.9 - 200.0°C
	P : 03	-100.0 - 50.0°C
	P : 04	-100.0 - 100.0°C
	P : 05	-100.0 - 200.0°C
	P : 06	0.0 - 50.0°C
	P : 07	0.0 - 100.0°C
	P : 08	0.0 - 200.0°C
	P : 09	0.0 - 300.0°C
	P : 10	0.0 - 500.0°C

Voltage and Current

Input	Code	Range
0 - 5V DC	4 : 01	0.0 - 100.0
1 - 5V DC	6 : 01	0.0 - 100.0
0 - 20mA DC	7 : 01	0.0 - 100.0
4 - 20mA DC	8 : 01	0.0 - 100.0

Alarm Code Table for REX-AC Series

Code	Type
H	Process High
J	Process Low
K	Process High with Alarm Hold
L	Process Low with Alarm Hold

Range and Input Code Table for REX-DP Series

Thermocouple

Input	Code	Range	Input	Code	Range
K	K : 07	0 - 1372°C	N	N : 02	0 - 1300°C
	K : A3	0 - 2502°F		N : A2	0 - 2372°F
J	J : 06	0 - 1200°C	T	T : 01	-199.9 - 400.0°C
	J : A3	0 - 2192°F		T : A1	-199.9 - 752.0°F
R ¹	R : 02	0 - 1769°C	W5Re W26Re	W : 02	0 - 2320°C
	R : A2	0 - 3216°F		W : A4	0 - 4208°F
S ¹	S : 02	0 - 1769°C	PL II	A : 02	0 - 1390°C
	S : A2	0 - 3216°F		A : A2	0 - 2534°F
B ¹	B : 02	0 - 1820°C	U	U : 01	-199.9 - 600.0°C
	B : A2	0 - 3308°F		U : A1	-199.9 - 999.9°F
E	E : 02	0 - 1000°C	L	L : 05	0 - 900°C
	E : A2	0 - 1832°F		L : A3	0 - 1652°F

¹ Accuracy is not guaranteed between 0 and 399°C (0 and 799°F) for type R, S and B.

RTD

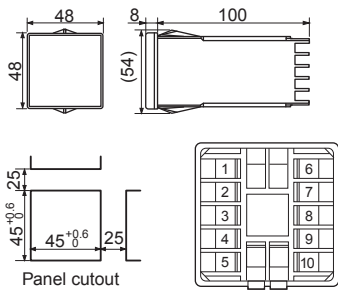
Input	Code	Range
Pt100	D : 01	-199.9 - 649.9°C
	D : A1	-199.9 - 999.9°F
JPt100	P : 01	-199.9 - 649.9°C

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External Dimensions and Rear Terminals

Unit : mm

< REX-AC110 >

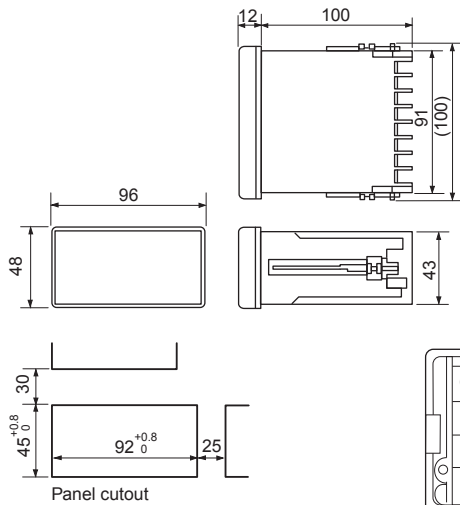


No.	Description
1	Alarm output
2	
3	Relay contact output
4	
5	Alarm 3

No.	Description
6	Power supply
7	
8	Measured input (1) Thermocouple (2) RTD (3) Voltage/Current
9	
10	

• Use 6.2mm or less solderless terminal.

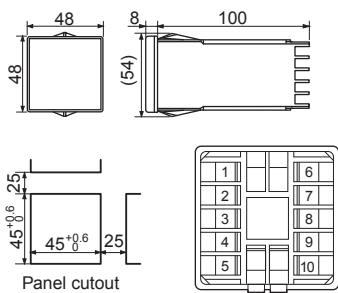
< REX-AC410 >



9	10	11	12	13	14	15	16
Alarm output Relay contact output					Measured input		

1	2	3	4	5	6	7	8
Power supply					Alarm output Relay contact output		

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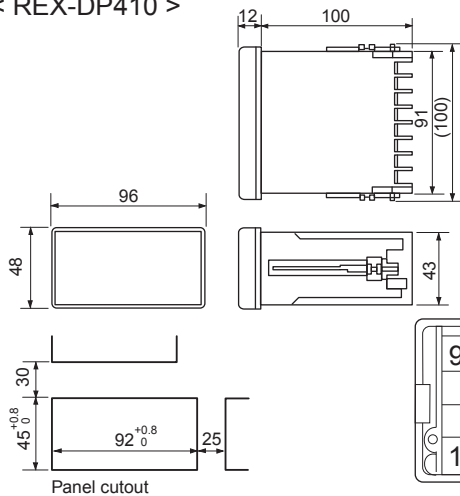


No.	Description
1	
2	
3	
4	
5	

No.	Description
6	Power supply
7	
8	Measured input (1) Thermocouple (2) RTD
9	
10	

• Use 6.2mm or less solderless terminal.

< REX-DP410 >



9	10	11	12	13	14	15	16
					Measured input		

1	2	3	4	5	6	7	8
Power supply							