

DAM-3046A

User's Manual



Beijing ART Technology Development Co., Ltd.

DAM-3046A Module

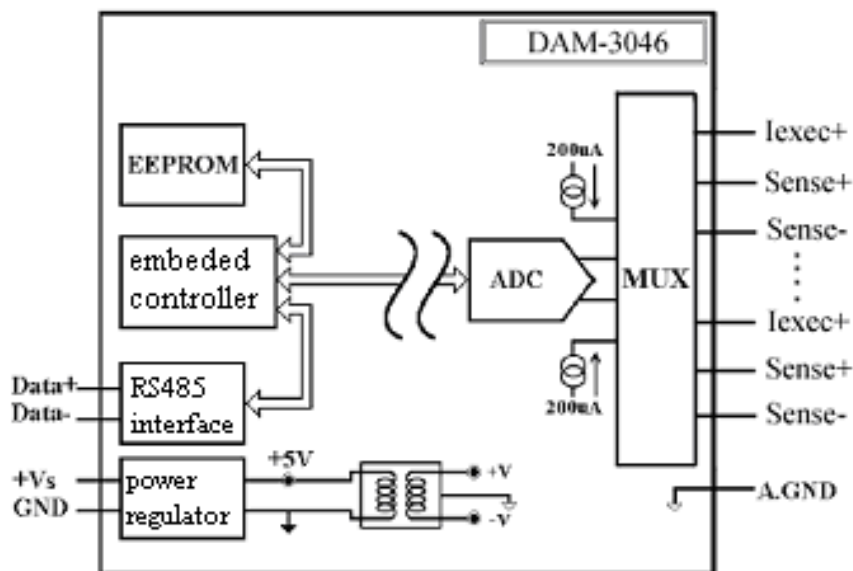
Introduction

Features

- ✧ Input Type: Pt100(385), Cu100, Cu50, BA1, BA2, B53
- ✧ Channel Input: 6 resistance temperature inputs
- ✧ AD Inversion Frequency: 10Hz
- ✧ Resolution: 16-bit
- ✧ Accuracy: $\pm 0.1\%$
- ✧ Input Mode: 2-wire, 3-wire
- ✧ Zero Drift: $0.5\mu\text{V}/^\circ\text{C}$
- ✧ Full Scale Drift: $1.0\mu\text{V}/^\circ\text{C}$
- ✧ CMR @ 50/60Hz: 150dB
- ✧ NMR @ 50/60Hz: 100dB
- ✧ Isolation Voltage: 3000V_{DC}
- ✧ Built-in Watchdog
- ✧ Power Supply: unregulated $+10 \sim +30 \text{V}_{\text{DC}}$
- ✧ Power consumption: $1.0\text{W} @ 24\text{VDC}$

Industrial Design

DAM-3046A was designed to use in industrial environment. It can be installed in standard DIN rail inside the cabinet. And it can be powered by unregulated $10\sim 30\text{V}_{\text{DC}}$ to meet the various power supplied source in field. It also withstands ambient temperature up to 60°C and resists the effects of vibration and mechanical shock.



Wiring & Installation

Power supply requirements: unregulated $+10 \text{V}_{\text{DC}} \sim +30 \text{V}_{\text{DC}}$. " $+V_s$ " is a positive, and " GND " is ground. " $\text{DATA}+$ " and " $\text{DATA}-$ " connect with " $\text{DATA}+$ " and " $\text{DATA}-$ " (or " A " and " B ") of RS-232/RS-485 transformation module, then connect the transformation module with computer, do not hot plug carefully.

The power indicator flashes after wiring is correct, then you can communication with the host computer.

According to the label directs color to wiring:

- +Vs (R) Red
- GND (B) Black
- DATA+ (Y) Yellow
- DATA- (G) Green

DAM-3046A

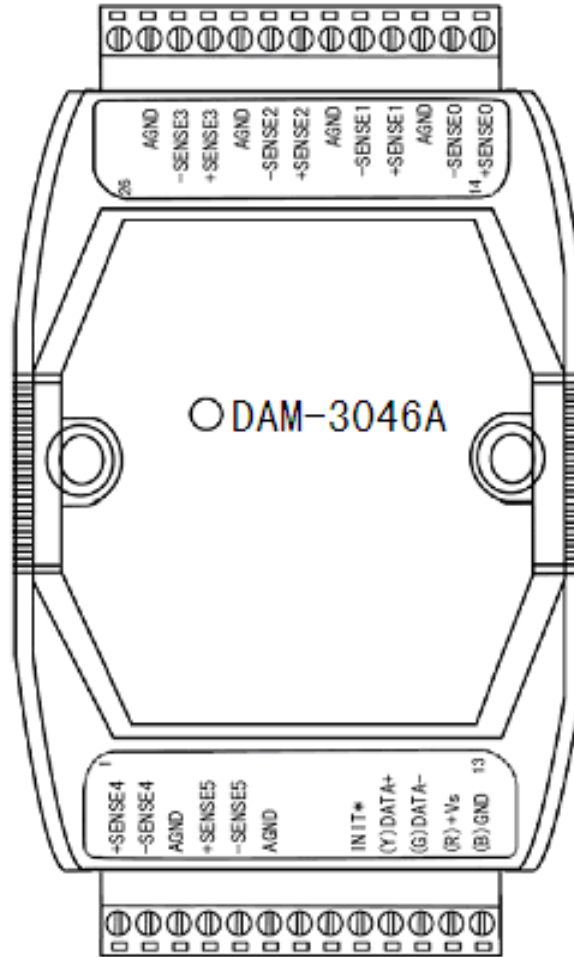


Fig. 1 DAM-3046 Drawing

DAM-3046 can be installed in standard DIN rail inside the cabinet, it also can be installed by stacking mode.

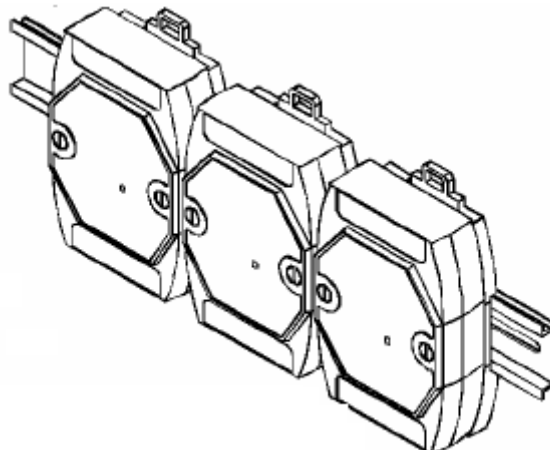


Fig.2 standard DIN installation

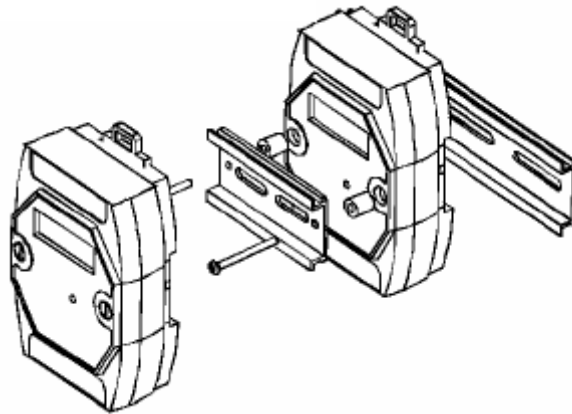


Fig.3 stack installation

Application Wiring

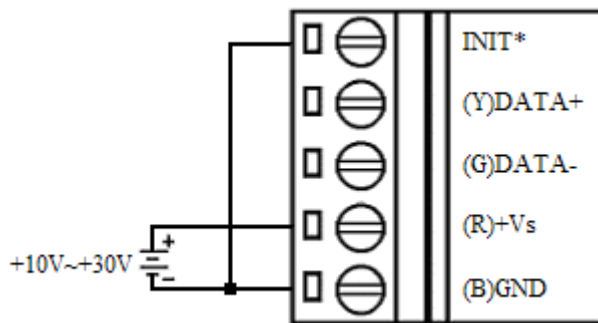
Reset Connection:

Shorted the INIT * and GND shorted, add +10 ~ +30 VDC between +Vs and GND, power on, the module indicator quickly flashes three times, power off until the indicator stops flashing, disconnect the INIT * and GND, then reset the module has been completed.

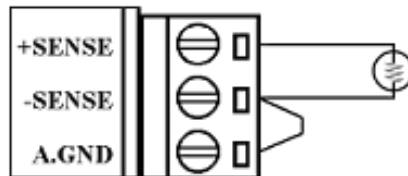
After reset successfully, the module restore the factory default values:

Module Address: 1

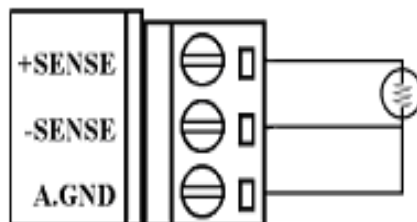
Baud Rate: 9600



2-wire RTD connection



3-wire RTD connection



Default Setting

If the module's address or baud rate is wrong, or forget the last modified value, the module can be reverted to default settings. Steps: Short-circuit the "INIT*" and "GND" when there is no power; power-on for 3 seconds, power off, disconnect "INIT*" and "GND". The module is reverted to the default settings.

- ✚ Address: 00
- ✚ Baud Rate :9600bps
- ✚ Noparity
- ✚ The serial port default work mode: parity bit: none
data bits: 8
stop bit: 1

Code Configuration Table

Baud Rate Configuration Code Table

Code	00	01	02	03	04	05	06	07
Rate	1200	2400	4800	9600	19200	38400	57600	115200

RTD Input Range Configuration Code Table

Type	Range	Code
Pt100(385)	-200℃~600℃	20
	-100℃~100℃	21
	0℃~100℃	22
	0℃~200℃	23
	0℃~600℃	24
Pt1000	-200℃~850℃	30
Cu50	-50℃~150℃	40
Cu100	-50℃~150℃	41
BA1	-200℃~650℃	42
BA2	-200℃~650℃	43

Pin Definition

Pin	Name	Function
1	+SENSE4	4-ch sensor signal, positive
2	-SENSE4	4-ch sensor signal,, negative
3	A.GND	Analog ground
4	+SENSE5	5-ch sensor signal, positive
5	-SENSE5	5-ch sensor signal,, negative
6	A.GND	Analog ground
7	NC	
8	NC	
9	INIT*	reset pin, connect with(B)GND, then power-on to reset

10	(Y)DATA+	RS-485 positive
11	(G)DATA-	RS-485 negative
12	(R)+Vs	DC Power Supply (+),+10~+30V _{DC}
13	(B)GND	DC Power Supply (-)
14	+SENSE0	0-ch sensor signal, positive
15	-SENSE0	0-ch sensor signal,, negative
16	A.GND	Analog ground
17	+SENSE1	1-ch sensor signal, positive
18	-SENSE1	1-ch sensor signal,, negative
19	A.GND	Analog ground
20	+SENSE2	2-ch sensor signal, positive
21	-SENSE2	2-ch e sensor signal,, negative
22	A.GND	Analog ground
23	+SENSE3	3-ch sensor signal, positive
24	-SENSE3	3-ch sensor signal, negative
25	A.GND	Analog ground
26	NC	