# A-10 Series RS-485 Remote IO Module

ATC remote RS-485 I/O module, support Modbus RTU/ASCII protocol, can be applied to the full range of ATC controller. And it also can communicate with other devices that support the Modbus RTU/ASCII protocol, host computer communication or remote command control. It can make the series of module work in Bus network and the I/O points can flexible expansion.










| Part No. | A-1057 | A-1058 | A-1068 | A-1069 | A-1051 | A-1055 | A-1055S | A-1060 |
|---|---|---|---|---|---|---|---|---|
| Operation Voltage | 10 ~ 30VDC/24VAC | 10 ~ 30VDC/24VAC | 10 ~ 30VDC/24VAC | 10 ~ 30VDC/24VAC | 10 ~ 30VDC/24VAC | 10 ~ 30VDC/24VAC | 10 ~ 30VDC/24VAC | 10 ~ 30VDC/24VAC |
| Inputs | — | — | — | — | 16 Status Low：<1VDC<br>Status High：>5~30VDC | 8 Status Low：<1VDC<br>Status High：>5~30VDC | 8 Status Low：<1VDC<br>Status High：>5~30VDC | 8 Status Low：<1VDC<br>Status High：>5~30VDC |
| Outputs | 12, Source Transistor | 12, Sink Transistor | 8, Signal Relay | 8, Power Relay | — | 8, Sink Transistor | 8, Source Transistor | 4, Power Relay |
| Continuous Current | 10 ~ 35VDC(1A) | 10 ~ 40VDC (200mA) | 120VAC(0.5A)/ 30VDC(1A) | 250VAC(5A)/ 30VDC(1A) | — | 10 ~ 40VDC (200mA) | 10 ~ 35VDC(1A) | 250VAC(5A)/ 30VDC(1A) |
| Communication Baud Rate | 1200 ~ 115200bps | | | | | | | |
| Communication Interface | RS - 485 | | | | | | | |
| Protocol | MODBUS RTU / MODBUS ASCII | | | | | | | |
| Data Bits | 8 Bits | | | | | | | |
| Parity | Odd Parity / Even Parity / None | | | | | | | |
| Stop Bit | 1/2 Bit | | | | | | | |
| Isolation | YES（5000VDC） | | | | | | | |
| Input Operating Frequency | 10Hz | | | | | | | |
| Output Operating Frequency | Relay: 10Hz / Transistor：10Hz | | | | | | | |
| Operation Temperature | -20 to +75℃ | | | | | | | |
| Degree Of Protection | IP20 | | | | | | | |
| Installation | 35 mm DIN rail / Flush mounting | | | | | | | |
| Dimension（W×H×D） | 76.4×118.2×38.5 mm | | | | | | | |

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| Part No. | A-1019 | | A-1012 | | A-1010 |
|---|---|---|---|---|---|
| Operation Voltage | 10 ~ 30VDC/24VAC | | 10 ~ 30VDC/24VAC | | 10 ~ 30VDC/24VAC |
| Inputs | 4 | Status Low：<1VDC<br>Status High：>5~30VDC | 2 | Status Low：<1VDC<br>Status High：>5~30VDC | — |
| Outputs | — | | 2, Source Transistor | | 4, Sink Transistor |
| Continuous Current | — | | 10 ~ 35VDC(1A) | | 10 ~ 40VDC(200mA) |
| Communication Baud Rate | 2400 ~ 921600bps | | | | |
| Protocol | MODBUS RTU / MODBUS ASCII | | | | |
| Data Bits | 8 Bits | | | | |
| Parity | Odd Parity / Even Parity / None | | | | |
| Stop Bit | 1/2 Bit | | | | |
| Isolation | YES（5000VDC） | | | | |
| Input Operating Frequency | 10Hz | | | | |
| Output Operating Frequency | Transistor：10Hz | | | | |
| Analog Inputs | 8（16 bit） | | 4（16 bit） | | 8（10 bit） |
| Analog Input Type | 0/4~20mA,J,K,T,E,R,S,B,Thermistor(-270 ~ +1800℃) | | 2*0/4-20mA + 2*PT100/1000(-200 ~ +600℃) | | 0 ~ 10V |
| Analog Outputs | — | | 2（12 bit） | | 2（10 bit） |
| Analog Output Type | — | | 0/4-20mA | | 0 ~ 10V |
| Input Impedance | Current: 100Ω / Voltage: 10MΩ | | Current: 100Ω / RTD: 10MΩ | | Voltage: 10MΩ |
| Analog Input / Output Accuracy | ±0.1% / — | | ±0.1% / ±1% | | ±1% / ±1% |
| Communication Interface | RS-485 + USB | | | | RS-485 |
| Channel Independent Configuration | Yes | | | | |
| Sampling Rate | 10 sample/second（Total） | | | | |
| CMR @ 50/60 Hz | 120 dB | | | | |
| Span Drift | ±50 ppm/℃ | | | | |
| Zero Drift | ±18 μV/℃ | | | | |
| Temperature Ranges | (PT-100:-200~+600℃) (PT-1000:-200~+600℃) (J:-210~760℃) (K:-270~1,370℃) (T:-270~400℃) (E:-270~1,000℃) (R:0~1,750℃) (S:0~1,750℃) (B:0~1,800℃) (Thermistor-10K-T2:0~100℃) (Thermistor-10K-T3:0~100℃) (Thermistor-6.8K:-10~100℃) (Thermistor-4.7K:-10~100℃) (Thermistor-3.3K:-20~100℃) (Thermistor-3K:-20~100℃) (Thermistor-2.7K:-20~100℃) (Thermistor-2.252K:-20~100℃) (Thermistor-2.1K:-30~100℃) (Thermistor-2K:-30~100℃) (Thermistor-1.5K:-40~100℃) (Thermistor-1K:-40~100℃) | | | | |
| Operation Temperature | -20 to +75℃ | | | | |
| Degree Of Protection | IP20 | | | | |
| Installation | 35 mm DIN rail / Flush mounting | | | | |
| Dimension（W×H×D） | 76.4*118.2*38.5 mm | | | | |









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■ Pin Table:

## A-1057

| | |
|---|---|
| DO 7~9COM | DO 5~6GND |
| DO 7 | DO 6 |
| DO 8 | DO 5 |
| DO 9 | DO 5~6COM |
| DO 7~9GND | DO 3~4GND |
| DO10~11COM | DO 4 |
| DO 10 | DO 3 |
| DO 11 | DO 3~4COM |
| DO10~11GND | DO 0~2GND |
| (Y) DATA+ | DO 2 |
| (G) DATA- | DO 1 |
| (R) +VS | DO 0 |
| (B) GND | DO 0~2COM |

## A-1069

| | |
|---|---|
| RL5 NO | RL4 COM |
| RL5 COM | RL4 NO |
| RL5 NC | NC |
| RL6 NO | RL3 COM |
| RL6 COM | RL3 NO |
| RL6 NC | RL2 COM |
| RL7 NO | RL2 NO |
| RL7 COM | NC |
| RL7 NC | RL1 COM |
| (Y) DATA+ | RL1 NO |
| (G) DATA- | NC |
| (R) +VS | RL0 COM |
| (B) GND | RL0 NO |

## A-1058

| | |
|---|---|
| DO 7~9COM | DO 5~6GND |
| DO 7 | DO 6 |
| DO 8 | DO 5 |
| DO 9 | DO 5~6COM |
| DO 7~9GND | DO 3~4GND |
| DO10~11COM | DO 4 |
| DO 10 | DO 3 |
| DO 11 | DO 3~4COM |
| DO10~11GND | DO 0~2GND |
| (Y) DATA+ | DO 2 |
| (G) DATA- | DO 1 |
| (R) +VS | DO 0 |
| (B) GND | DO 0~2COM |

## A-1051

| | | | |
|---|---|---|---|
| DI 9~11COM 1 | | 26 | DI 8 |
| DI 9 | | | DI 7 |
| DI 10 | | | DI 6 |
| DI 11 | | | DI 6~8COM |
| DI 12~15COM | | | DI 5 |
| DI 12 | | | DI 4 |
| DI 13 | | | DI 4~5COM |
| DI 14 | | | DI 3 |
| DI 15 | | | DI 2 |
| (Y)DATA+ | | | DI 2~3COM |
| (G)DATA- | | | DI 1 |
| (R)+VS | | | DI 0 |
| (B)GND | 13 | 14 | DI 0~1COM |

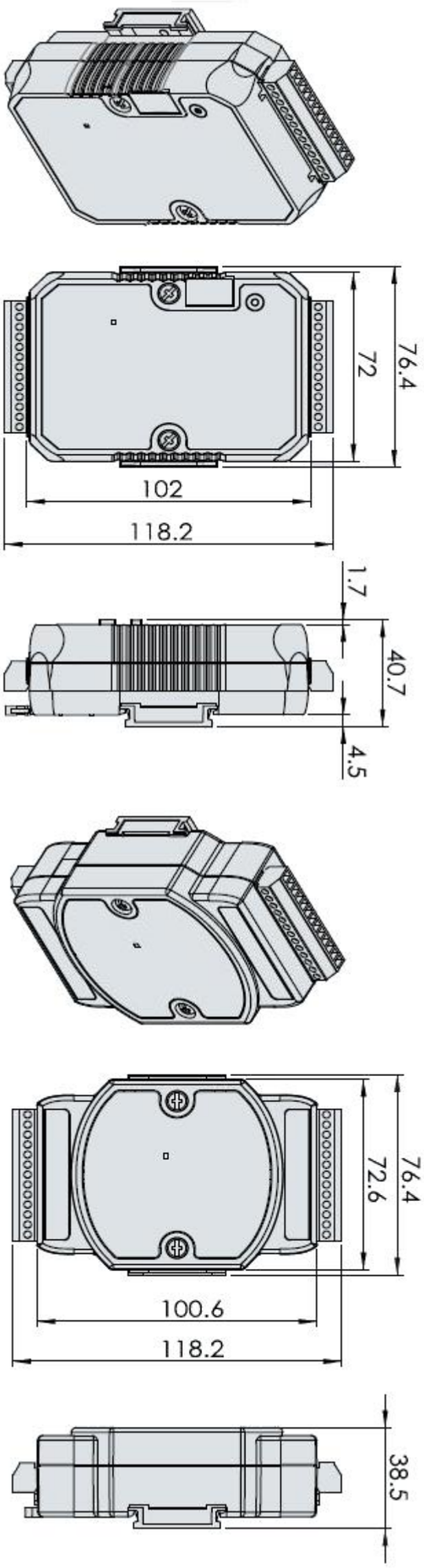
## A-1055

| | | | |
|---|---|---|---|
| DI 0~7COM 1 | | 26 | DO4~7GND |
| DI 0 | | | DO 7 |
| DI 1 | | | DO 6 |
| DI 2 | | | DO 5 |
| DI 3 | | | DO 4 |
| DI 4 | | | DO 4~7COM |
| DI 5 | | | NC |
| DI 6 | | | DO 0~3GND |
| DI 7 | | | DO 3 |
| (Y)DATA+ | | | DO 2 |
| (G)DATA- | | | DO 1 |
| (R)+VS | | | DO 0 |
| (B)GND | 13 | 14 | DO 0~3COM |

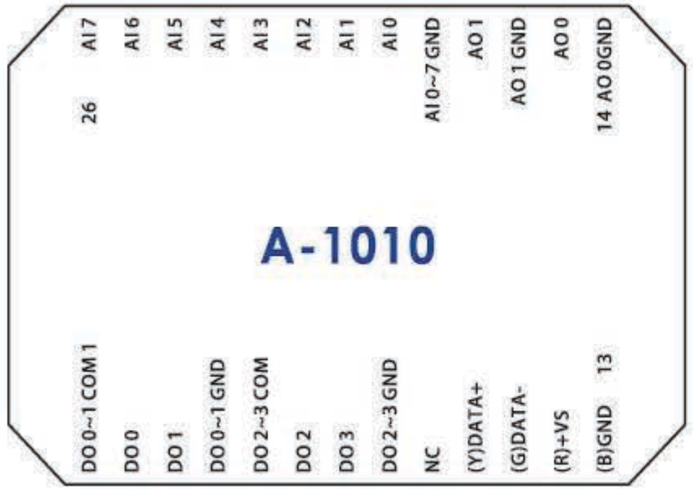
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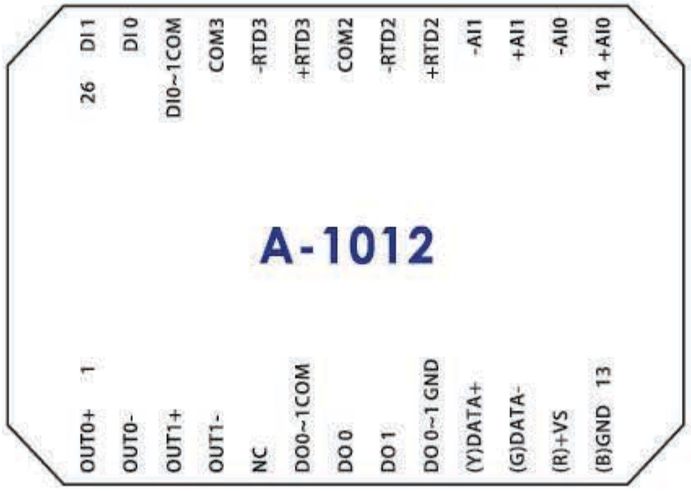
| | |
|---|---|
| RL5 NO | RL4 NO |
| RL5 COM | RL4 COM |
| RL5 NC | RL3 NO |
| RL6 NO | RL3 COM |
| RL6 COM | RL2 NC |
| RL6 NC | RL2 COM |
| RL7 NO | RL2 NO |
| RL7 COM | RL1 NC |
| RL7 NC | RL1 COM |
| (Y) DATA+ | RL1 NO |
| (G) DATA- | RL0 NC |
| (R) +VS | RL0 COM |
| (B) GND | RL0 NO |

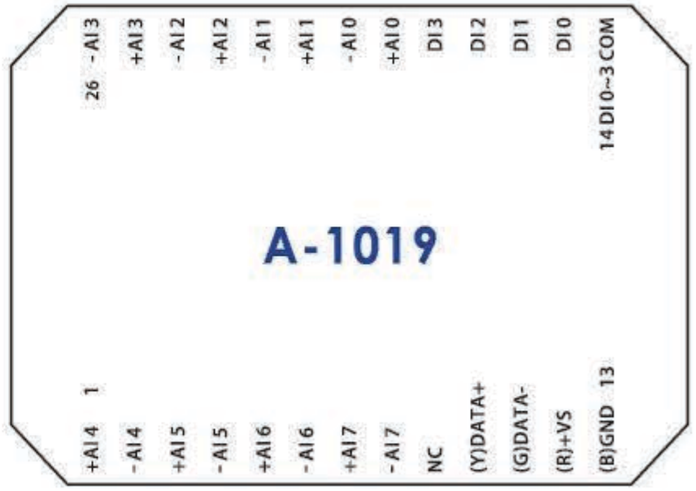
■ Dimension:

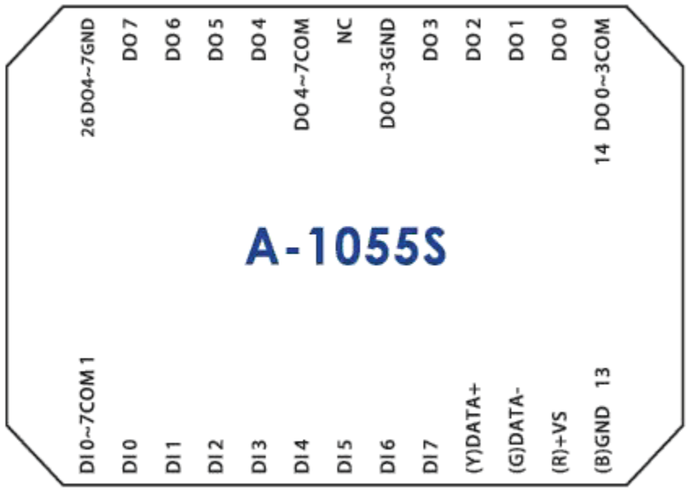



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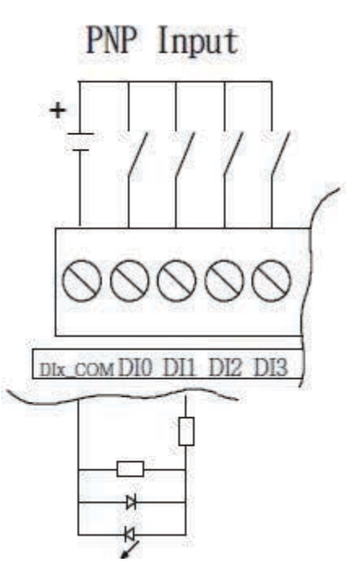


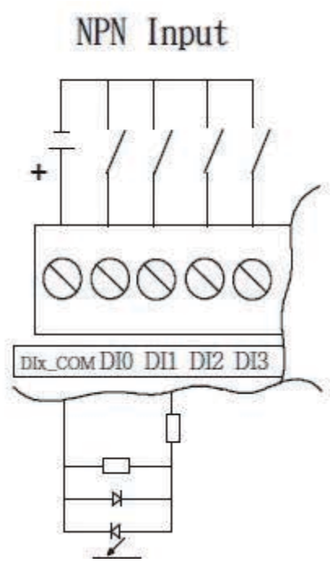



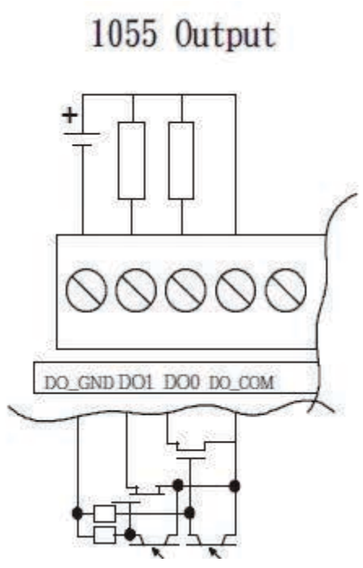



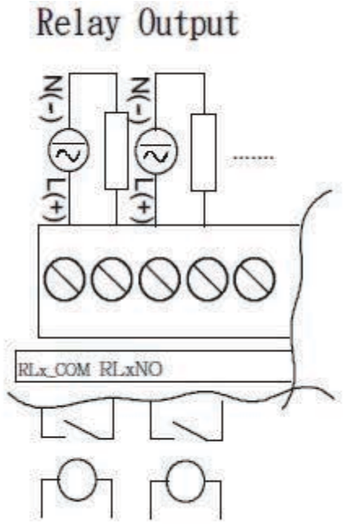



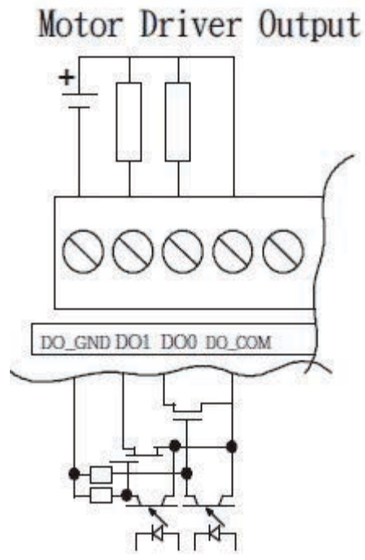

- Wiring Diagrams & Pin Out



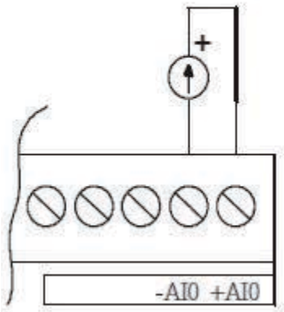



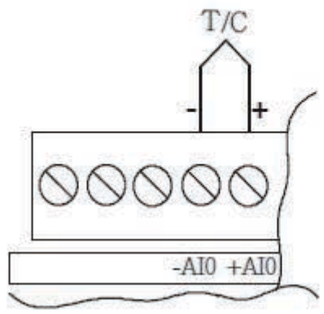



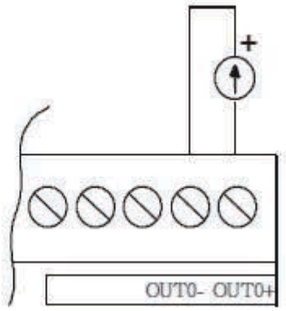
Current Input



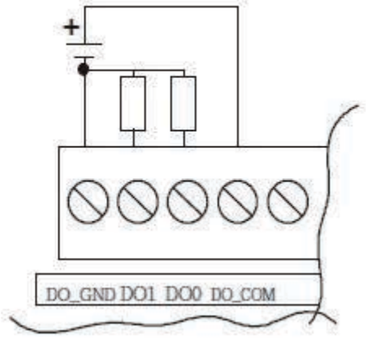

Thermocouple Input



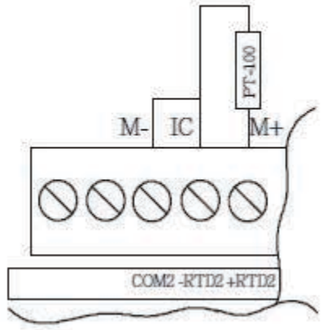

Current Output



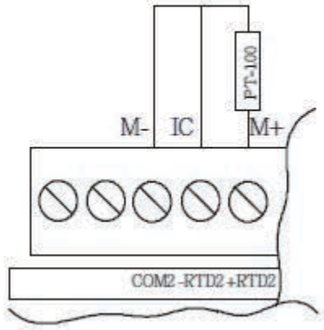

1055S/1012/1212 Output



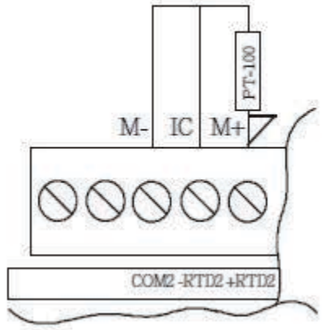

2-wire RTD Input




3-wire RTD Input




4-wire RTD Input




Thermistor Input

