



General Features:

- Standard din rail mount temperature controller
- Dual channel 4 outputs, 2 main outputs and 2 auxiliary outputs
- 2 auxiliary outputs can be configured as alarm, cooling or digital I/O ports
- 24VDC power supply for maximum safety
- C/F display selectable
- Maximum 15 units can be daisy chained together
- Wiring on the power supply and RS-485 can be done at once
- TC/RTD input(K,E,J,T,S,R,B,N,Wu3_Re25,PT100)
- Heating or cooling, heating+cooling control configurable
- RS-485 modbus RTU communication as standard feature
- PID control mode or ON/OFF control mode selectable
- 0.3%FS measuring accuracy, maximum 0.1 resolution
- Auto/manual control bumpless transfer
- Soft-start for analog output
- Run/Stop function
- Output high/low limits configurable
- With dual line 4 digits LED display in front of the panel
- Four rubber keys for setting purpose, programming is possible even without the master device

Ordering Information

DR04C-653
 1 2 3 4 5

1:Factory default input

| Input Code | Type of input and range |
|------------|--|
| K | Thermocouple type K, range -30~1300°C/-20~2372°F |
| E | Thermocouple type E, range -30~600°C/-20~1112°F |
| J | Thermocouple type J, range -30~800°C/-20~1472°F |
| N | Thermocouple type N, range -30~1300°C/-20~2372°F |
| W | Thermocouple type Wu3_Re25, range 600~2000°C/1000~3632°F |
| S | Thermocouple type S, range 0~1600°C/0~2912°F |
| T | Thermocouple type T, range -30~400°C/-20~752°F |
| R | Thermocouple type R, range 0~1700°C/0~3092°F |
| B | Thermocouple type B, range 200~1800°C/400~3272°F |
| D | RTD Pt100, range -199~800°C/-199~1472°F |

The type of inputs is configurable via master device or via front setting keys, but still the user have to choose one as the factory default input, in most of cases, K is the options and you can change it to other inputs later on. the accuracy of type S and R is not guaranteed when the process value is less than 200°C

2:OP1 and OP2 output type, AU1 and AU2 output type

| Code | OP1/OP2 | AU1/AU2 |
|----------|--------------------------------|--------------------------------|
| 1 | Relay output(NO) 3A/250V | Relay output(NO) 3A/250V |
| 2 | Voltage pulse(SSR drive 12Vdc) | Voltage pulse(SSR drive 12Vdc) |
| 3 | Voltage pulse(SSR drive 12Vdc) | Relay output(NO)3A 250V |
| 4 | Relay output(NO)3A 250V | Voltage pulse(SSR drive 12Vdc) |
| 5 | Analog output | Relay output(NO) 3A/250V |
| 6 | Analog output | Voltage pulse(SSR drive 12Vdc) |
| 7 | Relay output(NO)3A 250V | Analog output |
| 8 | Voltage pulse(SSR drive 12Vdc) | Analog output |
| 9 | Analog output | Analog output |

Remark: The OP1 and OP2 output have to be the same, AU1 and AU2 have to be the same as well, for example, if you choose relay output for OP1, then OP2 will be relay too, and if you choose 4-20mA for AU1, then the output for AU2 will be 4-20mA as well, it's not possible to choose different output type between OP1 and OP2 AU1 and AU2, but AU1 and AU2 output can be configured as alarm output, cooling output or digital I/O ports, this brings a lot of possibilities on how to use this controller. please refer to user manual for the further elaboration on the configuration of AU1 and AU2

3:Specify the output when OP1 and OP2 are analog output

| | |
|----------|---|
| N | OP1/OP2 is not analog output |
| 2 | DC 0~20mA(OP1 and OP2 is 0-20mA output) |
| 8 | DC 4~20mA(OP1 and OP2 is 4-20mA output) |
| 5 | DC 0~5Vdc(OP1 and OP2 is 0-5Vdc) |
| 6 | DC 0~10Vdc(OP1 and OP2 is 0-10Vdc) |
| 7 | DC 1~5Vdc(OP1 and OP2 is 1-5Vdc) |

4:Assign the functionality for AU1 output(physical output type already specified under section 2, and physical output type has to be the same as AU2)

| | |
|-----------|--|
| A1 | AU1 assigned as deviation high alarm for #1 loop(relay output) |
| B1 | AU1 assigned as deviation low alarm for #1 loop(relay output) |
| H1 | AU1 assigned as absolute value high alarm for #1 loop(relay) |
| J1 | AU1 assigned as absolute value low alarm for #1 loop(relay) |
| O | AU1 assigned as digital I/O ports |
| WM | AU1 assigned as cooling output for #1 loop(relay) |
| WV | AU1 assigned as cooling output for #1 loop(SSR drive) |
| W2 | AU1 assigned as cooling output for #1 loop(DC 0~20mA) |
| W8 | AU1 assigned as cooling output for #1 loop(DC 4~20mA) |
| W5 | AU1 assigned as cooling output for #1 loop(0~5VDC) |
| W6 | AU1 assigned as cooling output for #1 loop(0~10VDC) |
| W7 | AU1 assigned as cooling output for #1 loop(1~5VDC) |

5:Assign the functionality for AU2 output(physical output type already specified under section 2, and physical output type has to be the same as AU1)

| | |
|-----------|--|
| A2 | AU2 assigned as deviation high alarm for #2 loop(relay output) |
| B2 | AU2 assigned as deviation low alarm for #2 loop(relay output) |
| H2 | AU2 assigned as absolute value high alarm for #2 loop(relay) |
| J2 | AU2 assigned as absolute value low alarm for #2 loop(relay) |
| A1 | AU2 assigned as deviation high alarm for #1 loop(relay output) |
| B1 | AU2 assigned as deviation low alarm for #1 loop(relay output) |
| H1 | AU2 assigned as absolute value high alarm for #1 loop(relay) |
| J1 | AU2 assigned as absolute value low alarm for #1 loop(relay) |
| O | AU2 assigned as digital I/O ports |
| WM | AU2 assigned as cooling output for #2 loop(relay) |
| WV | AU2 assigned as cooling output for #2 loop(SSR drive) |
| W2 | AU2 assigned as cooling output for #2 loop(DC 0~20mA) |
| W8 | AU2 assigned as cooling output for #2 loop(DC 4~20mA) |
| W5 | AU2 assigned as cooling output for #2 loop(0~5VDC) |
| W6 | AU2 assigned as cooling output for #2 loop(0~10VDC) |
| W7 | AU2 assigned as cooling output for #2 loop(1~5VDC) |

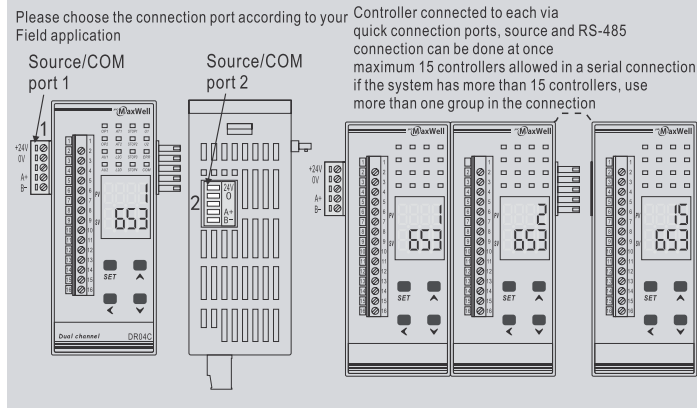
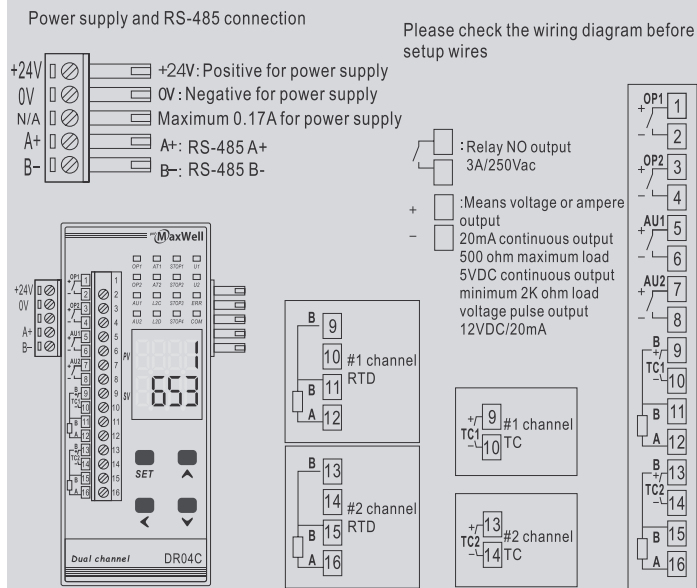
DR04C-653-K-1-N-A1-A2

1 2 3 4 5

DR04C-653 Din rail mount temperature controller

- 1:Default input: Type K, inputs are configurable via master device or via front key
- 2:Output 1 and Output 2:Relay
- 3:Output 1 and Output 2 is not analog output
- 4:Auxiliary output 1 is relay output and assigned as deviation high alarm for #1 loop you can change the functionality of AU1 output via master device or via front plate. The AU1 can be configured as alarm for #1 loop, can be configured as the cooling control output for #1 loop or as the digital I/O ports which only respond to the master device.
- 5:Auxiliary output 2 is relay output and assigned as deviation high alarm for #2 loop you can change the functionality of AU1 output via master device or via front plate. The AU1 can be configured as alarm for #1 loop or #2 loop, can be configured as the cooling control output for #2 loop or as the digital I/O ports which only respond to the master device.

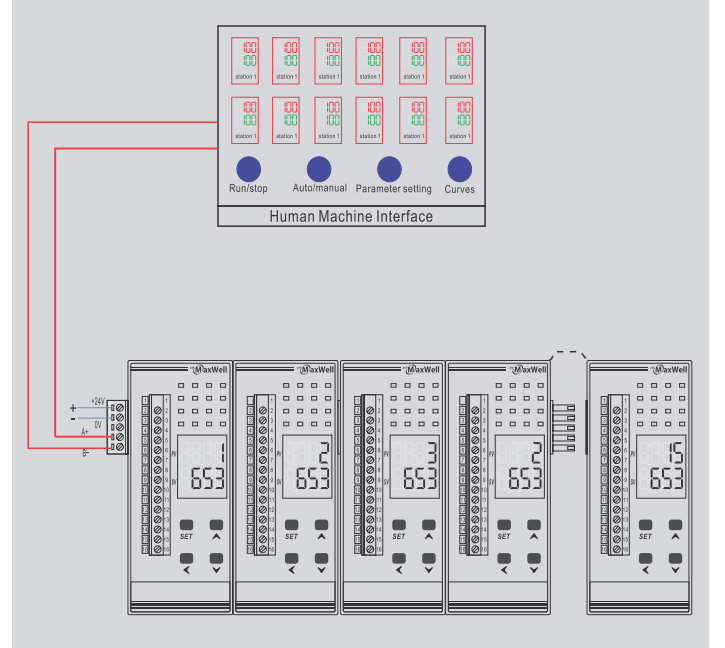
Wiring



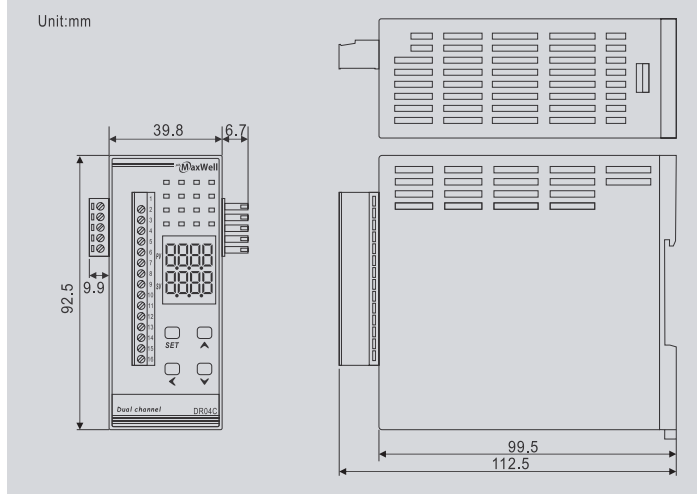
Further elaboration on features of this model

- This is dual channel 4 outputs controller, it's two loop so the input will be 2 inputs but with 4 outputs, the configuration on the auxiliary outputs is very flexible. The 2 main outputs served as the output for the PID control process or ON/OFF control process, the two auxiliary outputs can be configured for different filed application, below is a breakdown on different function for auxiliary outputs
 - >for some of application where they need 2 alarms, any one of the two auxiliary outputs can be configured as second alarm for #1 loop or #2 loop, for instance, the AU2 output can be assigned as the second alarm for #1 loop, plus the AU1 which is alarm 1 for #1 loop, in this case, the total alarm for #1 loop will be 2 alarms
 - >The AU1 or AU2 output can be configured as cooling output for #1 loop or #2 loop, this features makes this controller perfect for heating+cooling application
 - >The AU1 or AU2 output can also be configured as the digital I/O ports which served as event outputs

Typical Application with HMI



Size and Dimension



Panel Description

