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CT-4154 4 channels Voltage Output

0~5VDC/0~10VDC/±5VDC/±10VDC,16 bits

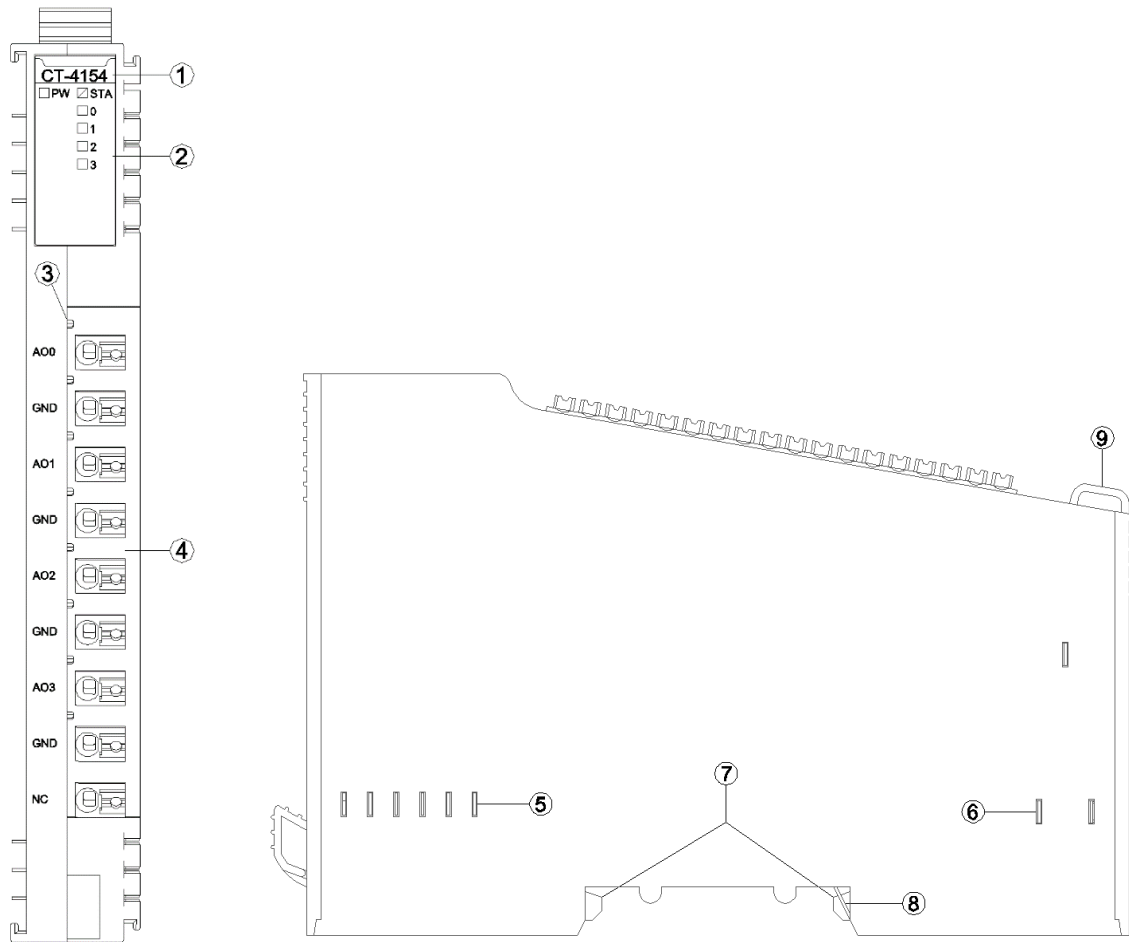
1 Module features

- ◆ The module supports 4 channels voltage signal output
- ◆ Output range: 0~5VDC, 0~10VDC, ±5VDC, ±10VDC, 16 bits
- ◆ The module carries with 4 analog output LED indicators
- ◆ Module output signal is single - ended common - grounded output

2 Technical Parameters

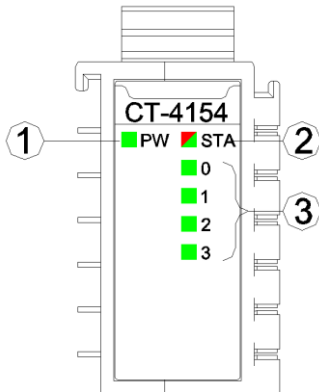
General parameters	
Power	Max.250mA@5.0Vdc
Isolation	I/O to internal bus: magnetic isolation (3KVrms)
Field Power	Not used
Wiring	I/O Wiring I/O: Max.1.5mm ² (AWG 16)
Mounting Type	35mmDIN-Rail
Size	115*14*75mm
Weight	65g
Environment Specification	
Operational Temperature	-40~85°C
Operational Humidity	5%~95% RH(No Condensation)
Protection Class	IP20
Output Parameter	
Channel Number	4 Channels voltage output
LED Indicator	4 Channels voltage output indicator
Output Voltage Range	0~5VDC、0~10VDC、±5VDC、±10VDC
Load Resistance	Max.5kΩ
Resolution	16 bits
Acquisition Accuracy	±0.1%(Full Scale)@25°C ±0.3(Full Scale)@-40~85°C
Sampling Rate	1 ms / all channels
Diagnose	Overtemperature/overcurrent status monitoring
Protection Current	20mA.
Common Port	Common grounded output

3 Hardware Interface



- ① Module Type
- ② State indicator
- ③ N/A
- ④ Wiring Terminal and identification
- ⑤ Internal Bus
- ⑥ Field Power
- ⑦ Buckle
- ⑧ Grounding Resilient Sheet
- ⑨ Fixed Wiring Harness

3.1 LED indicator definition



- ① Power LED indicator (green)
- ② Module State LED indicator (red/green)
- ③ Output channel LED indicator (green)

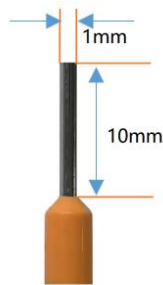
PW POWER STATE (GREEN)	Definition
ON	Internal bus Power Normal
OFF	Internal bus Power Failure
STA MODULE STATE (RED/GREEN)	Definition
Green slow flash (2.5Hz)	Module internal bus is not started
Red slow flash (2.5Hz)	Module internal bus offline
ON (GREEN)	Operation normal
Flash(2.5Hz) (RED/GREEN)	Upgrading mode
Flash(10Hz) (RED/GREEN)	Firmware Update
Double Flash (RED)	Module Exception has been soft-restarted
0-3 Channel Indicator	Definition
ON	The output value is not 0
OFF	The output value is 0

3.2 Terminal definition

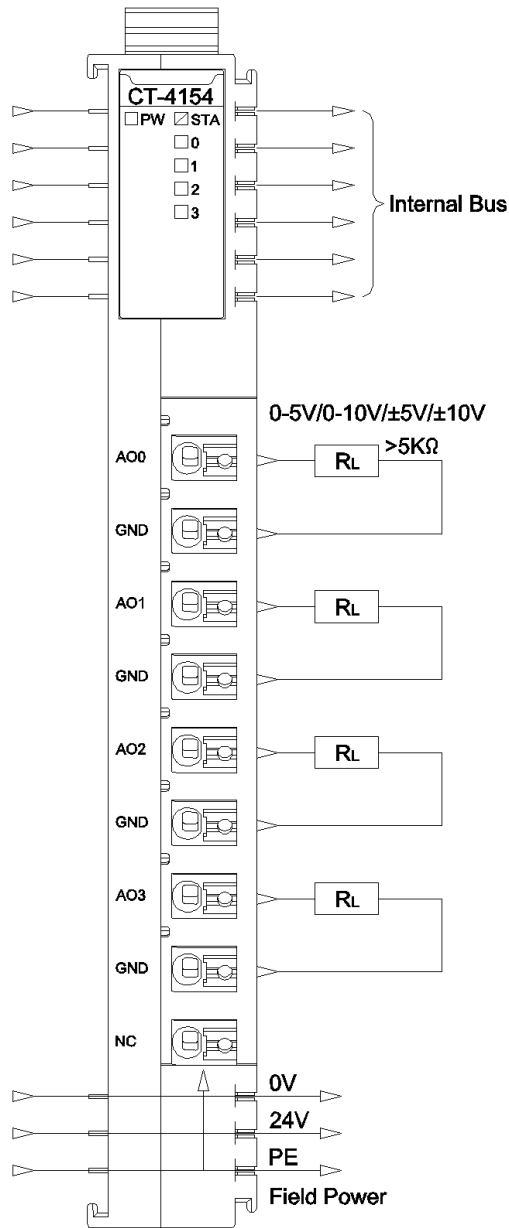
Terminal Number	Definition	Description
1	AO0	Signal Output CH0
2	GND	
3	AO1	Signal Output CH1
4	GND	
5	AO2	Signal Output CH2
6	GND	
7	AO3	Signal Output CH3
8	GND	
NC	NC	Not Connected

It is recommended to use cables with cores smaller than 1mm ?

The cold-pressed terminal parameters are as follows:



4 Wiring



5 Process data definition

Input Data								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Reserved			Over temperature	Overcurrent (CH3)	Overcurrent (CH2)	Overcurrent (CH1)	Overcurrent (CH0)
Output Data								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Analog Output Data (CH 0)							
Byte 1								
Byte 2	Analog Output Data (CH 1)							
Byte 3								
Byte 4	Analog Output Data (CH 2)							
Byte 5								
Byte 6	Analog Output Data (CH 3)							
Byte 7								

5.1 Process data definition (standard mode)

Data Declaration:

Analog Output Data (CH0-3): voltage output value

Unipolarity 0-5V/0-10V output value

Analog Output Data (CT-4154) (0-5V/0-10V)			
Voltage (0-5V)	Voltage (0-10V)	Decimal	Hex
5	10	27648	0x6C00
.	.	.	.
.	.	.	.
2.5	5	13824	0x3600
.	.	.	.
.	.	.	.
0	0	0	0x0000

Bipolar $\pm 5V/\pm 10V$ Output value

Analog Output Data (CT-4154) ($\pm 5V/\pm 10V$)			
Voltage ($\pm 5V$)	Voltage ($\pm 10V$)	Decimal	Hex
5	10	27648	0x6C00
.	.	.	.
.	.	.	.
2.5	5	13824	0x3600
.	.	.	.
.	.	.	.
0	0	0	0x0000
.	.	.	.
.	.	.	.
-2.5	-5	-13824	0xCA00
.	.	.	.
.	.	.	.
-5	-10	-27648	0x9400

5.2 Process data definition (special mode)

Data Declaration:

Analog Output Data (CH0-3): voltage output value

Unipolarity 0-5V/0-10V output value

Analog Output Data (CT-4154) (0-5V/0-10V)			
Voltage (0-5V)	Voltage (0-10V)	Decimal	Hex
5	10	65535	0xFFFF
.	.	.	.
.	.	.	.
2.5	5	32767	0x7FFF
.	.	.	.
.	.	.	.
0	0	0	0x0000

Bipolar $\pm 5V/\pm 10V$ Output value

Analog Output Data (CT-4154) ($\pm 5V/\pm 10V$)			
Voltage ($\pm 5V$)	Voltage ($\pm 10V$)	Decimal	Hex
5	10	32767	0x7FFF
.	.	.	.
.	.	.	.
2.5	5	16383	0x3FFF
.	.	.	.
.	.	.	.
0	0	0	0x0000
.	.	.	.
.	.	.	.
-2.5	-5	-16384	0xC000
.	.	.	.
.	.	.	.
-5	-10	-32768	0x8000

6 Configuration parameters definition

Configuration Parameter								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Reserved							16Bit Data Format
Byte 1	Voltage Type (CH 1)				Voltage Type (CH 0)			
Byte 2	Voltage Type (CH 3)				Voltage Type (CH 2)			

Data Declaration:

16Bit Data Format: 16 bits data byte transmission sequence (default value:

A_B)

A_B: Big-endian format transmission

B_A: Little-endian format transmission

Range_Mode: Process data mode (default: standard mode)

Standard mode: same with Siemens process data definition

Special mode: max range of the hardware

Voltage Type(CH 0-3): Output voltage type (default value: 0~10Vdc)

Disable: Output disable

0~5Vdc: 0~5V Direct-current output

0~10Vdc: 0~10V Direct-current output

-5~5Vdc: -5~5V Direct-current output

-10~10Vdc: -10~10V Direct-current output

A Dimension drawing

