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CT-4158 8 channels Voltage Output

0~5VDC/0~10VDC/±5VDC/±10VDC,16bits

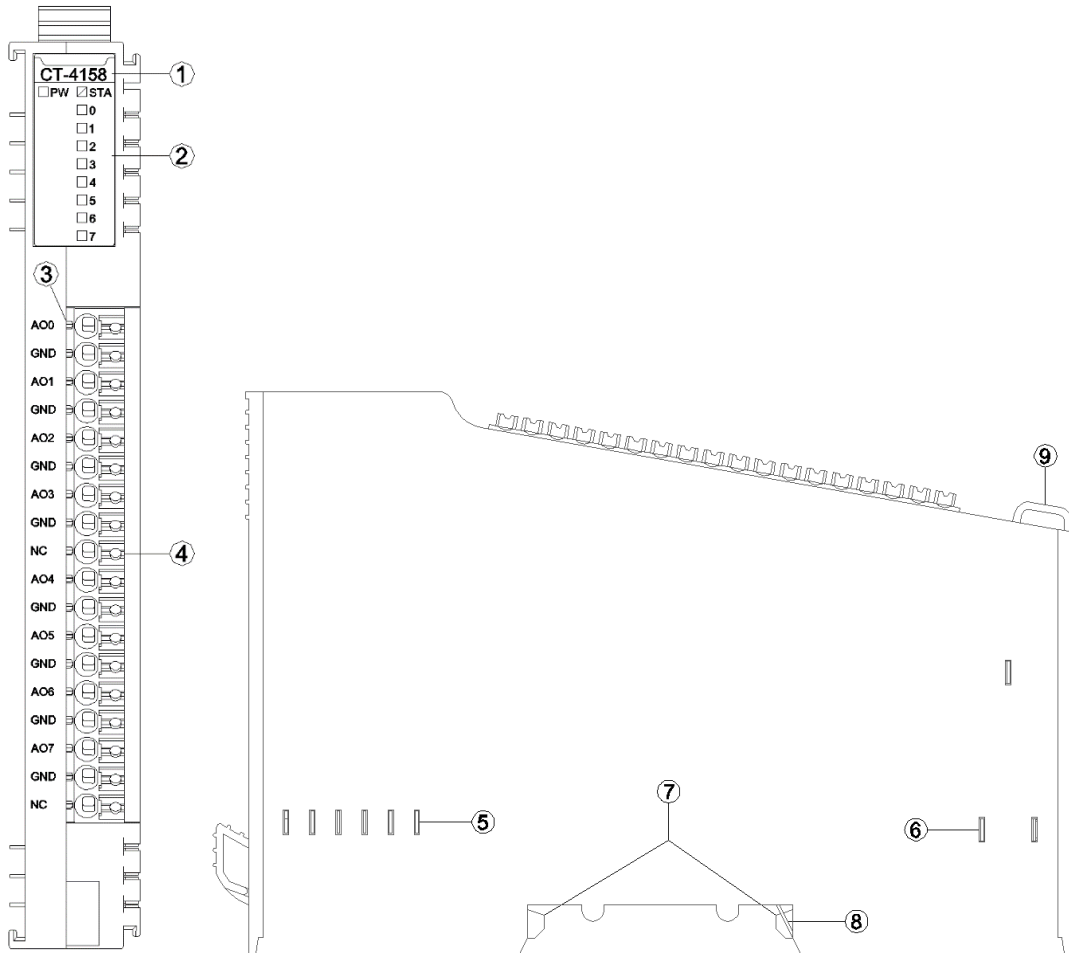
1 Module features

- ◆ The module supports 8 channels voltage signal output
- ◆ Output range: 0~5VDC, 0~10VDC, ±5VDC, ±10VDC, 16 bits
- ◆ The module carries with 8 analog output LED indicators
- ◆ Module output signal is single - ended common - grounded output

2 Technical Parameters

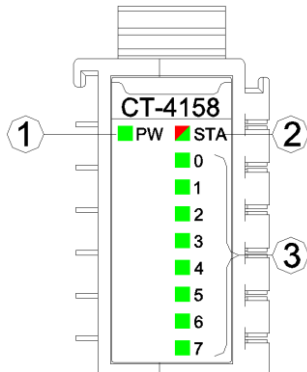
General parameters	
Power	Max.300mA@5.0Vdc
Isolation	I/O to internal bus: magnetic isolation (3KVrms)
Field Power	Not used
Wiring	I/O Wiring I/O: Max.1.5mm ² (AWG 16)
Mounting Type	35mmDIN-Rail
Size	115*14*75mm
Weight	65g
Environment Specification	
Operational Temperature	-40~85°C
Operational Humidity	5%~95% RH(No Condensation)
Protection Class	IP20
Output Parameter	
Channel Number	8Channels voltage output
LED Indicator	8 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)

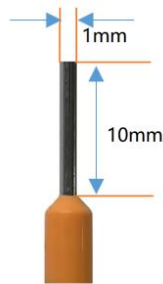
PW POWER STATE (GREEN)	Definition
ON	Internal bus Power Normal
OFF	Internal bus Power Failure
STA MODULE STATE (RED/GREEN)	Definition
Green slow flash (2.5Hz)	Module internal bus is not started
Red slow flash (2.5Hz)	Module internal bus offline
ON (GREEN)	Operation normal
Flash(2.5Hz) (RED/GREEN)	Upgrading 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

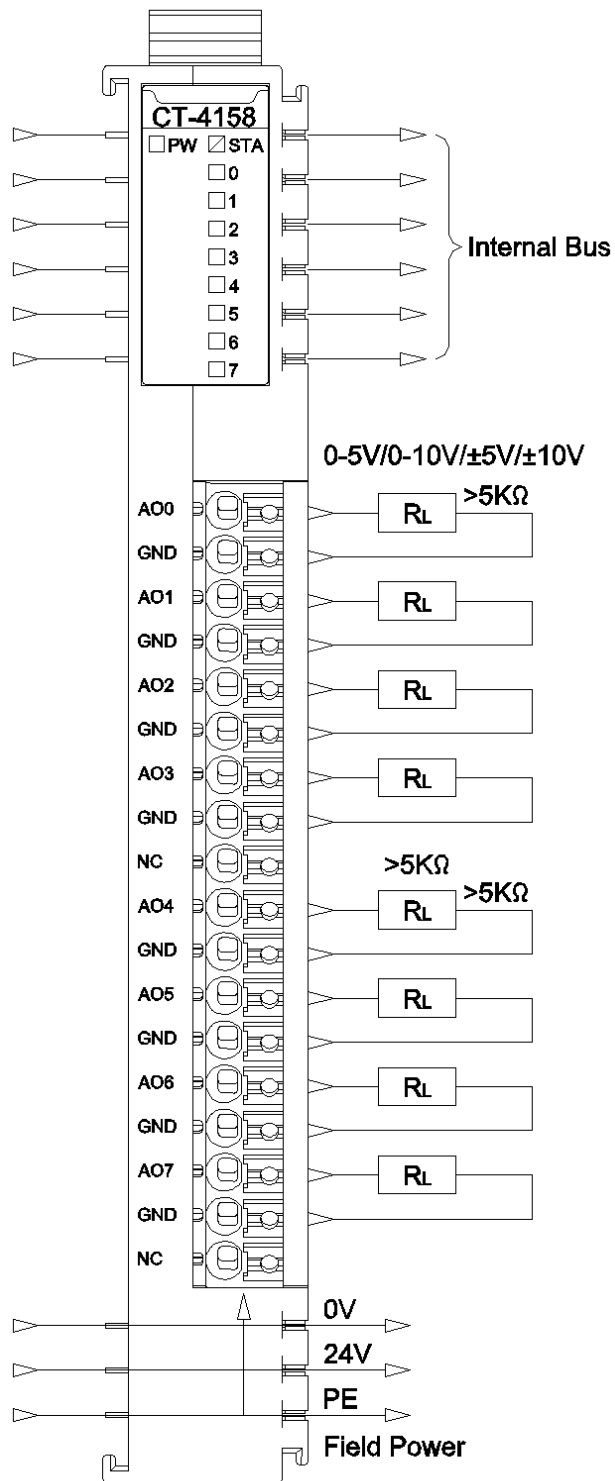
Terminal Number	Definition	Description
1	AO0	Signal Output CH0
2	GND	
3	AO1	Signal Output CH1
4	GND	
5	AO2	Signal Output CH2
6	GND	
7	AO3	Signal Output CH3
8	GND	
9	NC	Not Connected
10	AO4	Signal Output CH4
11	GND	
12	AO5	Signal Output CH5
13	GND	
14	AO6	Signal Output CH6
15	GND	
16	AO7	Signal Output CH7
17	GND	
18	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							Overtem perature
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								
Byte 8	Analog Output Data (CH 4)							
Byte 9								
Byte 10	Analog Output Data (CH 5)							
Byte 11								
Byte 12	Analog Output Data (CH 6)							
Byte 13								
Byte 14	Analog Output Data (CH 7)							
Byte 15								

Data Declaration:

Analog Output Data (CH0-7): voltage output value

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

5.1 Process data definition (standard mode)

Data Declaration:

Analog Output Data (CH0-7): voltage output value

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

Analog Output Data (CT-4158) (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-4158) ($\pm 5V/\pm 10V$)			
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 (CH0-7): voltage output value

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

Analog Output Data (CT-4158) (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-4158) ($\pm 5V/\pm 10V$)			
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)			
Byte 3	Voltage Type (CH 5)				Voltage Type (CH 4)			
Byte 4	Voltage Type (CH 7)				Voltage Type (CH 6)			

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 0-7): 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

