

CT-222H 32 channels digital output/24VDC/PNP

1 Module features

- ◆ The module supports 32 channels digital output; the output voltage is 24VDC and the output high level is valid.
- ◆ Module can drive field equipment. (relay, solenoid valve, etc.)
- ◆ The internal bus of the module and field output are using opto-coupler.
- ◆ The module carries 32 digital output channel LED indicator light.
- ◆ The module has the functions of thermal shutdown and overcurrent protection.
- ◆ The module supports short circuit protection and overload protection.

2 Technical parameters

General Parameters	
Power	Max.185mA@5.0VDC
Isolation	I/O to internal bus: opto-couple isolation (3KVrms)
Field Power	Nominal:24VDC, Range:20.4-28.8VDC
Wiring	34P male connector 2.54mm Pin header
Installation	35mm DIN-Rail
Size	115*14*75mm
Weight	65g
Vibration Resistance	Comply with IEC 61131-2 and EC 60068-2-6
Impact resistance	Comply with IEC 61131-2 and IEC 60068-2-27
EMC Performance	Comply with IEC 61131-2 and IEC 61000-4
Environment Specification	
Operating Temperature of Horizontal Installation	-35°C~70°C
Operating Temperature of Vertical Installation	-35°C~60°C
Relative Humidity	< 95%RH (No Condensation)
Storage Temperature	-40°C~85°C
Storage Humidity	< 95%RH (No Condensation)
Manufacturing Test Temperature	-40°C~75°C
Ingress Protection Rating	IP20
Output Parameters	
Channel Number	32 channels source type output
LED Indicator	32 channel output LED indicator
Rated Current	Typical value: 300mA
Leakage Current	Max: 10uA
Output Impedance	<200mΩ
Output Delay	OFF to ON: Max.100us ON to OFF: Max.150us
Protection	Overtemperature shutdown: typical value is 135°C Overcurrent protection: typical value 1.1A Short circuit protection support
Load type	General use and Resistive, Pilot Duty

 WARNING

UNEXPECTED EQUIPMENT OPERATION

Do not exceed any of the ratings specified in the environmental and electrical characteristics table.

Failure to follow instructions specified by the manufacturer may result in serious consequences such as death, personal injury, or damage to equipment since the protection provided by the equipment may be impaired.

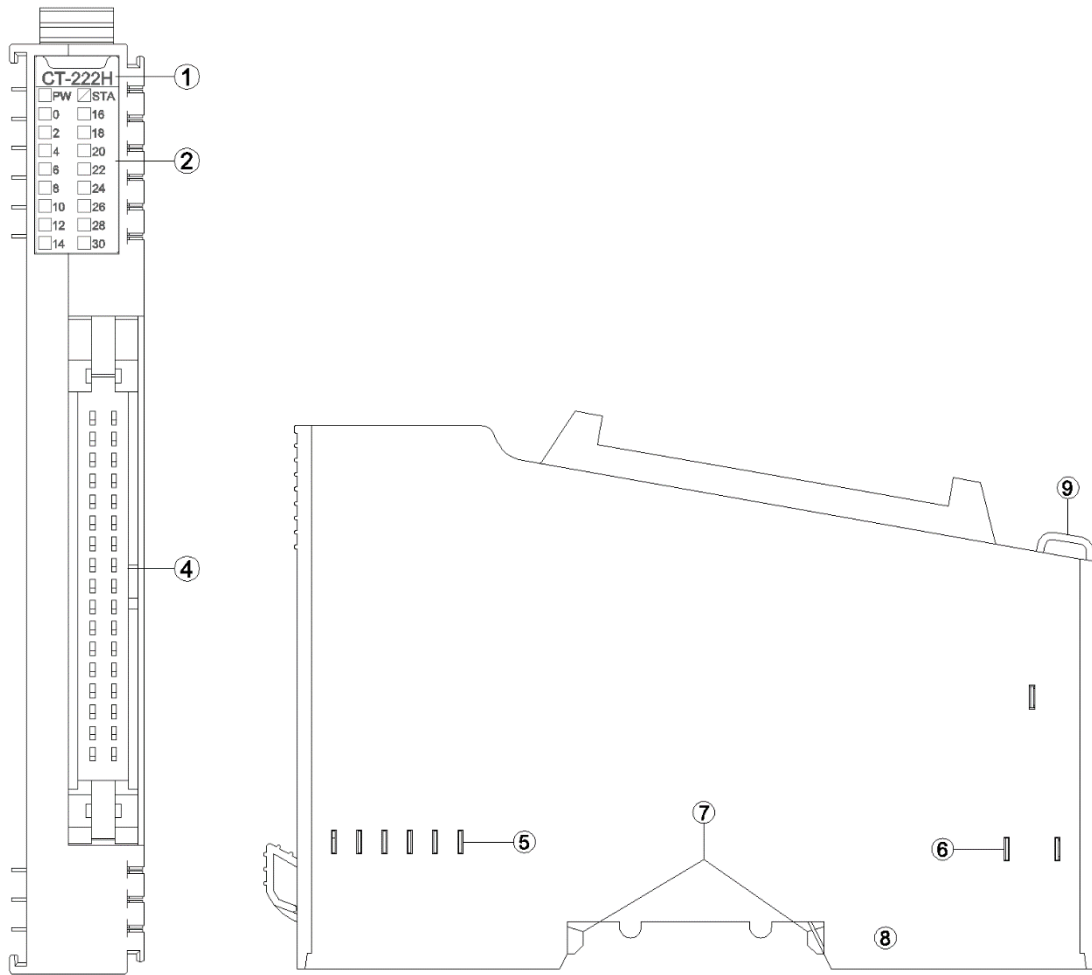
 AVERTISSEMENT

FONCTIONNEMENT INATTENDU DE L'EQUIPEMENT

Ne dépassez aucune évaluation spécifiée dans le tableau de caractéristiques environnementales et électriques..

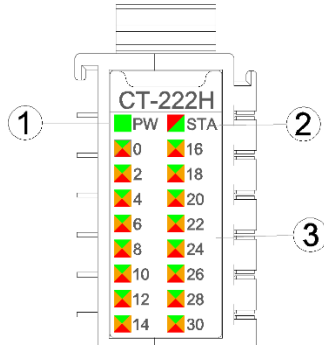
Le fait de ne pas suivre les instructions peut entraîner une défaillance de la protection fournie par l'équipement, ce qui peut entraîner des conséquences graves, comme des blessures ou des dommages à l'équipement.

3 Hardware interfaces



- ① Module Type
- ② State indicator
- ④ 34P male connector
- ⑤ Internal Bus
- ⑥ Field Power
- ⑦ Buckle
- ⑧ Grounding Spring 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/red/orange)

PW Power State	Definition
ON	Internal bus power supply normal
OFF	Internal bus power supply failure
STA Module State	Definition
Green slow flash (2.5 Hz)	Module internal bus is not started
Red slow flash (2.5 Hz)	Module internal bus offline
ON (GREEN)	Operation normal
Flash (2.5 Hz) (RED/GREEN)	updating mode
Flash (10 Hz) (RED/GREEN)	firmware update
Double Flash (RED)	Module exception has been soft-restarted
0-31 channel indicator LED	Definition
ON (GREEN)	Indicates that the output channel signal is valid
ON (RED)	Indicates that the output channel +1 signal is valid
ON (ORANGE)	Indicates that the output channel and channel +1 signal are valid
OFF	Output signal is invalid

! WARNING

UNEXPECTED EQUIPMENT OPERATION

By viewing the PW indicator, could determine the power supply status of a module. If the PW is steady green, the power supply is normal. Otherwise, the module cannot work properly.

When the module is initially powered on, there will be 3S for the backplane bus connection. After the backplane bus is initialized, STA is in the green steady state. If STA is in the green blinking state, it indicates that the backplane bus has not been initialized, and it needs to be powered off and restarted for re-initialization.

STA abnormal working state occurs during the normal operation of the module, please check the firmware version information of all modules, and consult ODOT technical support for details.

If a module is upgraded, check that all modules are in the normal state after the upgrade.

Otherwise, an exception may occur.

Failure to follow instructions specified by the manufacturer may result in serious consequences such as death, personal injury, or damage to equipment since the protection provided by the equipment may be impaired.

AVERTISSEMENT

FONCTIONNEMENT INATTENDU DE L'EQUIPEMENT

En regardant l'état de l'indicateur de PW, jugez l'état d'alimentation du module. Le feu vert PW reste allumé et l'alimentation est normale. Autrement, le module ne fonctionnera pas correctement.

Lorsque le module est alimenté initialement, il y aura 3S pour la connexion de bus de backboard. STA est un état vert permanent après l'initialisation du bus de backboard. Si STA est en état de clignotement vert, cela signifie que l'initialisation du bus de backboard n'est pas passée et doit être redémarrée hors tension et réinitialisée.

L'état de fonctionnement anormal de STA se produit pendant le fonctionnement normal du module, veuillez vérifier les informations de version du firmware de tous les modules, et consulter le support technique ODOT pour plus de détails.

Si le module a une opération de mise à niveau, après l'achèvement de la mise à niveau, le besoin de vérifier que tous les modules sont dans l'état normal avant de courir, sinon il conduira à une exception.

Le fait de ne pas suivre les instructions peut entraîner une défaillance de la protection fournie par l'équipement, ce qui peut entraîner des conséquences graves, comme des blessures ou des dommages à l'équipement.

3.2 Terminal definition

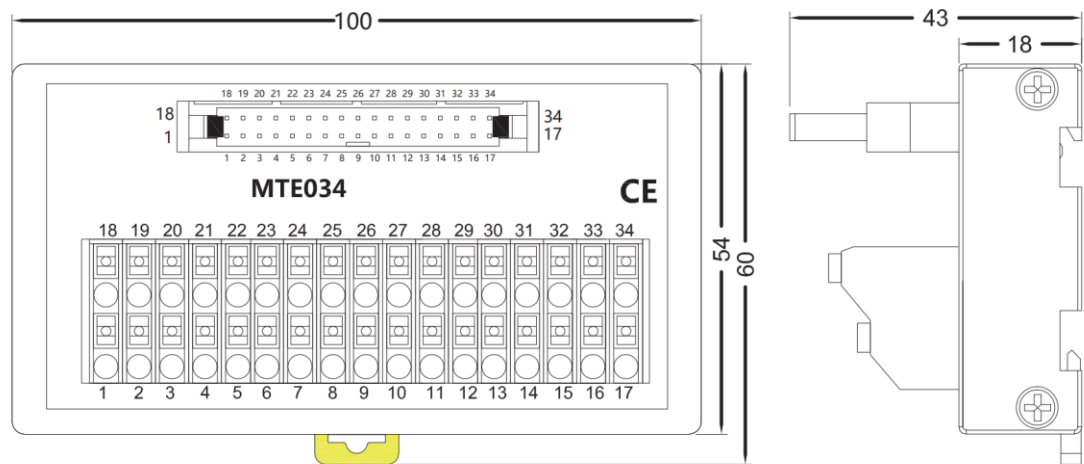
Description	Symbol	Terminal Number	Terminal Number	Symbol	Description
Signal Output	DO0	1	18	DO16	Signal Output
	DO1	2	19	DO17	
	DO2	3	20	DO18	
	DO3	4	21	DO19	
	DO4	5	22	DO20	
	DO5	6	23	DO21	
	DO6	7	24	DO22	
	DO7	8	25	DO23	
	DO8	9	26	DO24	
	DO9	10	27	DO25	
	DO10	11	28	DO26	
	DO11	12	29	DO27	
	DO12	13	30	DO28	
	DO13	14	31	DO29	
	DO14	15	32	DO30	
	DO15	16	33	DO31	
24V	24V	17	34	24V	24V

Pins 17 and 34 are internally short-circuited.

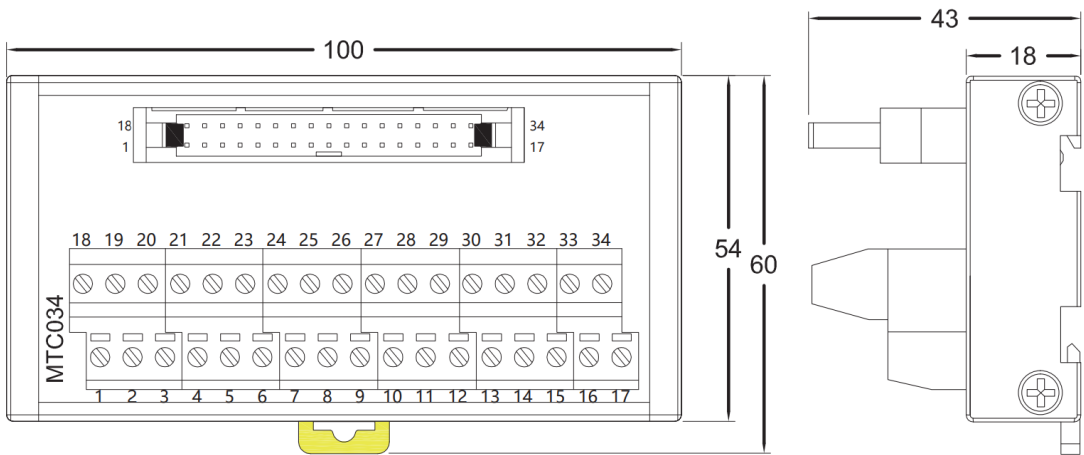
3.3 External terminal block

Module number	MTC034	MTE034
Name	Scre terminal block	Spring terminal block
Suitable cable	DX210-3SFX-2000	
Nominal current	1A	
Nominal voltage	DC24V	
Wiring	Max. AWG 18	

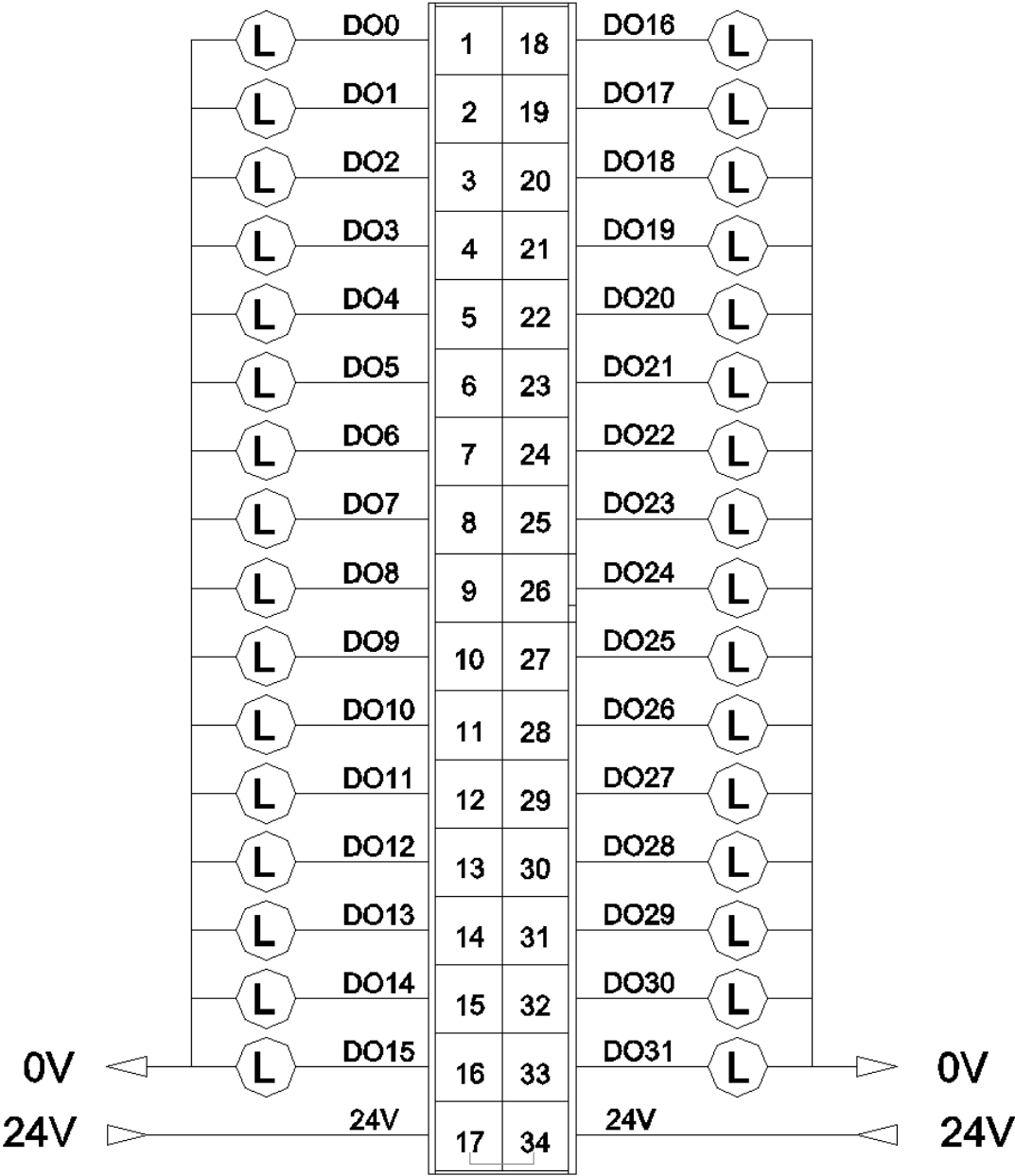
MTE034



MTC034



4 Wiring



Terminals 17 and 34 are internally short-circuited

5 Process data definition

Output data								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	DO Ch#7	DO Ch#6	DO Ch#5	DO Ch#4	DO Ch#3	DO Ch#2	DO Ch#1	DO Ch#0
Byte 1	DO Ch#15	DO Ch#14	DO Ch#13	DO Ch#12	DO Ch#11	DO Ch#10	DO Ch#9	DO Ch#8
Byte 2	DO Ch#23	DO Ch#22	DO Ch#21	DO Ch#20	DO Ch#19	DO Ch#18	DO Ch#17	DO Ch#16
Byte 3	DO Ch#31	DO Ch#30	DO Ch#29	DO Ch#28	DO Ch#27	DO Ch#26	DO Ch#25	DO Ch#24

Data description:

DO Ch#(0-31): when this bit is 1, the corresponding channel output signal is valid, the output is high level, and the output is invalid when it is 0.

0: Output signal is invalid

1: Output signal is valid

6 Configuration parameter definitions

Configuration parameters								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Fault Action for Output Ch#7	Fault Action for Output Ch#6	Fault Action for Output Ch#5	Fault Action for Output Ch#4	Fault Action for Output Ch#3	Fault Action for Output Ch#2	Fault Action for Output Ch#1	Fault Action for Output Ch#0
Byte 1	Fault Action for Output Ch#15	Fault Action for Output Ch#14	Fault Action for Output Ch#13	Fault Action for Output Ch#12	Fault Action for Output Ch#11	Fault Action for Output Ch#10	Fault Action for Output Ch#9	Fault Action for Output Ch#8
Byte 2	Fault Action for Output Ch#23	Fault Action for Output Ch#22	Fault Action for Output Ch#21	Fault Action for Output Ch#20	Fault Action for Output Ch#19	Fault Action for Output Ch#18	Fault Action for Output Ch#17	Fault Action for Output Ch#16
Byte 3	Fault Action for Output Ch#31	Fault Action for Output Ch#30	Fault Action for Output Ch#29	Fault Action for Output Ch#28	Fault Action for Output Ch#27	Fault Action for Output Ch#26	Fault Action for Output Ch#25	Fault Action for Output Ch#24

Byte 4	Fault Value for Output Ch#7	Fault Value for Output Ch#6	Fault Value for Output Ch#5	Fault Value for Output Ch#4	Fault Value for Output Ch#3	Fault Value for Output Ch#2	Fault Value for Output Ch#1	Fault Value for Output Ch#0
Byte 5	Fault Value for Output Ch#15	Fault Value for Output Ch#14	Fault Value for Output Ch#13	Fault Value for Output Ch#12	Fault Value for Output Ch#11	Fault Value for Output Ch#10	Fault Value for Output Ch#9	Fault Value for Output Ch#8
Byte 6	Fault Value for Output Ch#23	Fault Value for Output Ch#22	Fault Value for Output Ch#21	Fault Value for Output Ch#20	Fault Value for Output Ch#19	Fault Value for Output Ch#18	Fault Value for Output Ch#17	Fault Value for Output Ch#16
Byte 7	Fault Value for Output Ch#31	Fault Value for Output Ch#30	Fault Value for Output Ch#29	Fault Value for Output Ch#28	Fault Value for Output Ch#27	Fault Value for Output Ch#26	Fault Value for Output Ch#25	Fault Value for Output Ch#24

Data description:

Fault Action for Output Ch#(0-31): Fault Output mode. When the IO module detects an internal bus exception and fails to communicate with the adapter. And the module will turn to offline mode, so the output data is processed in this way. (default: 0)

0: keep the last time output State.

1: output fault value.

Fault Value for Output Ch#(0-31): when the Fault Output mode is 1, this bit sets the Fault Output Value, and this setting value will be outputted when the internal bus of IO module is offline. (default: 0)

0: Output low level.

1: Output high level.

A Dimension drawing

