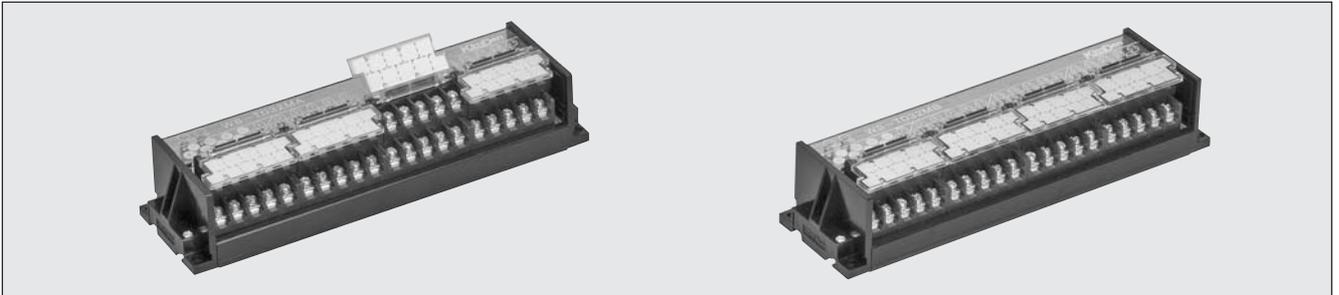


# Wiring saving terminals

I/O free

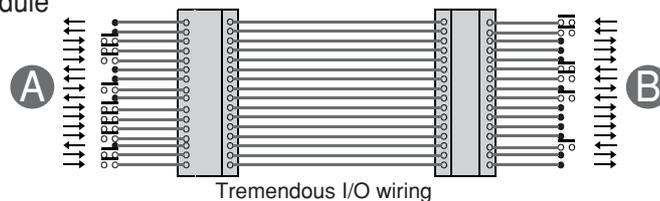
## WS-TD32 MA/MB



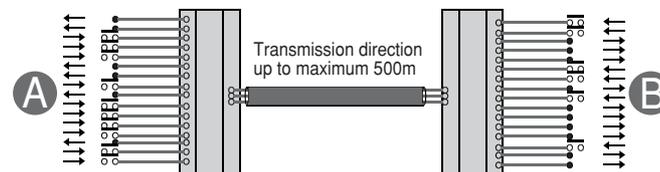
### □ Features

- Both signal and power supply are possible and power supply at the terminating side is unnecessary by using 3-core cable.
- Shielded wire and other special expensive cable is unnecessary.
- Since it is I/O free, input and output that are 32 points for this product can be freely connectable for both number and pins.
- Maximum 500m communication is possible (However, when there is a power supply at both ends and the connection electric wire is VCTFO.75mm<sup>2</sup> or greater)
- Two colors LED display which allows simple checking of the communication state is used.
- The body is DIN rail, direct mounting type.

### ● Digital input/output module



Maximum 32 points can be transmitted up to maximum 100m by connecting a power supply at one end of the 3-core cable.  
Transmission up to 500m is possible by connecting a power supply at both ends of 2-core cable.

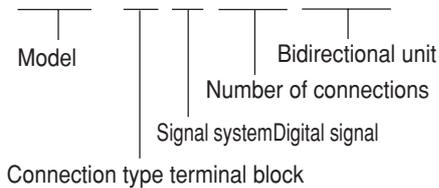


### NOTICE

- Always use WS-TD32MA and WS-TD32MB as a pair. Transmission between the same formats is impossible.
- Always turn off the power when performing wiring work.
- Do not touch the SIG terminal and power supply terminal. It may cause trouble and transmission will become impossible.
- Pay careful attention to the polarity of the power supply when wiring.
- Do not apply an overvoltage of 100V AC, etc. by mistake. It may cause trouble and transmission will become impossible.

❖ Model Designation

**WS - T D 32** ※1



※Use this product as with an MA and MB set.

<span style="border: 1px solid black; padding: 2px;">※1</span>	
Code	Spec
<b>MA</b>	Bidirectional unit
<b>MB</b>	

❖ Specifications

Transmission system	Division multiplex transmission when unidirectional
Transmission range	500m max. (When both A and B units are energized) ※1/100m max. (when A or B unit is energized)※2
Transmission delay time	8~16ms
Supply voltage	DC12V~24V ±10%
Insulation Resistance	100MΩ or more measured by 500V DC megohmmeter (Between live parts and ground)
Withstand Voltage	1500V AC for 1 minute (Between live parts and ground)
Noise resistance	Noise level 1.5kV, pulse width 100ns, 1 μs
Vibration resistance	0~55Hz Total amplitude 1.5mm
Shock resistance	300m/s
Operating temperature range	-10~55°C (No freezing or condensation)
Operating humidity range	35~85%RH
Preservation range	-25~65°C (No freezing or condensation)
Protection structure	IP00

※1 Value when "VCTF0.75mm<sup>2</sup> 2 core" cable used as the communication cable.

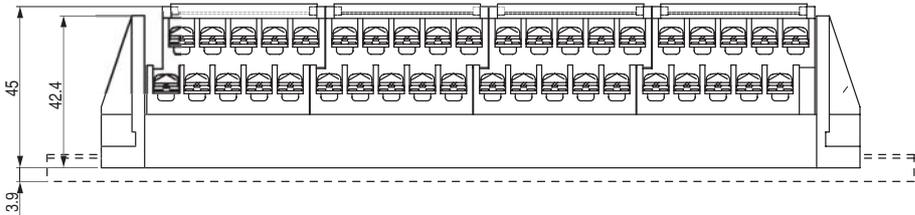
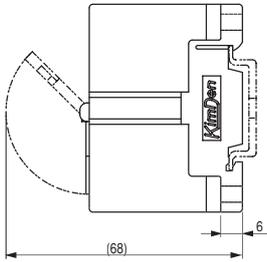
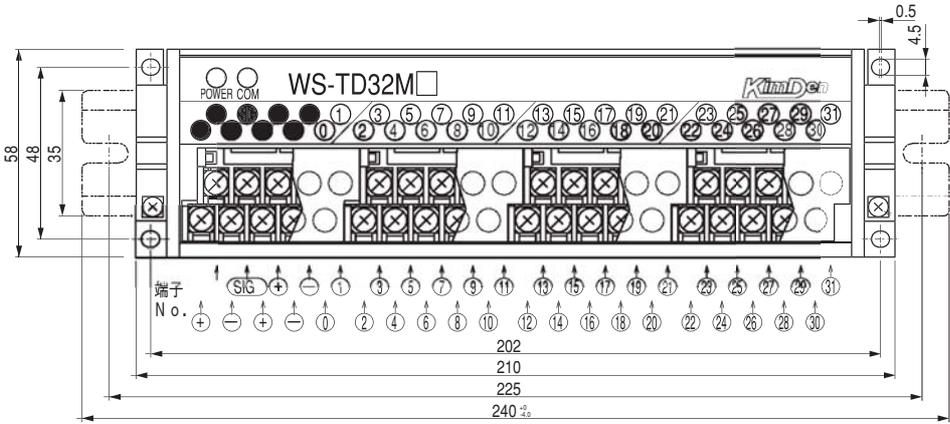
※2 Value when "VCTF0.75mm<sup>2</sup> 3 core" cable used as the communication cable.

❖ Materials

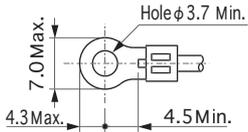
Materials of terminal	Denatured-polyphenylene ether	UL94V-0
Metal End	Denatured-polyphenylene ether	UL94V-0
Terminal Screws	Carbon steel (galvanized and chromate treatment)	
Terminal Metal	Brass (Tinning)	
Terminal Protection Cover	Polycarbonate resin	UL94V-0

❖ Dimensions

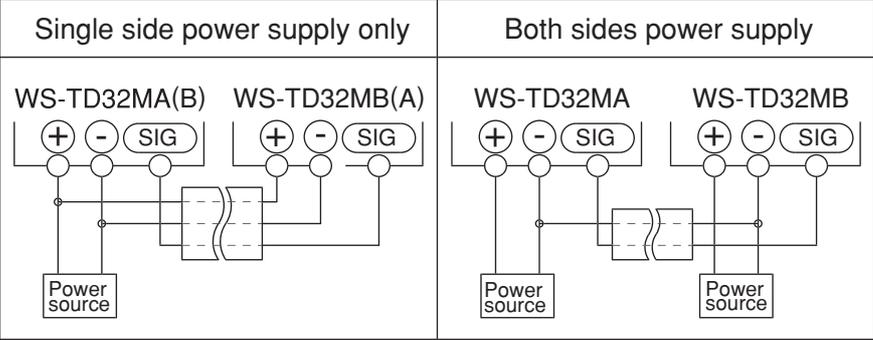
▼ WS-TD-32



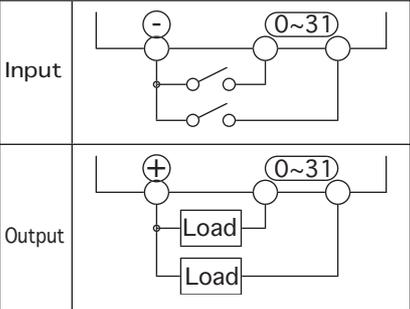
• Applicable crimp terminal



● Power supply connection format



● I/O signal connection format



● NOTICE

- Refrain from balance and close connection with electric wire, etc. which generate high voltage and high current noise and strong magnetic fields for the transmission line. When connection near a noise source is unavoidable, use shielded wire and take other countermeasures and check that there is no erroneous operation.
- Do not short-circuit (no-load state) between the I/O terminals and + terminal during transmission. It will cause trouble and transmission will become impossible.
- Be sure that each connection method does not exceed the transmission range.
- Tighten the terminal screws to a torque of "1.0~1.3N-m".
- For rail mounting, tighten to a torque of "0.5~0.7N-m".
- For panel direct mounting, tighten to a torque of "0.8~1.0N-m".
- When 2-core cable is used, provide a power supply at both sides and use VCTF0.75mm<sup>2</sup> or greater wire as the transmission line.
- When 3-core cable is used, provide a power supply at one side and use VCTF0.75mm<sup>2</sup> or greater wire as the transmission line. (However, be sure that the maximum transmittable current (1.5A) is not exceeded.)
- Be sure that the maximum load current at output (500mA/point) is not exceeded.
- When you want to exceed the maximum transmittable current (1.5A), install a power supply at both ends.
- This product cannot be used where corrosive gases are generated and when vibration and shock are applied.
- When using in an environment which generates a large amount of static electricity take countermeasures and confirm that there is no erroneous operation from the generation source.
- For contact input, we recommend a very small type switch, etc. because the input current is a low 1.8 to 3.6mA.