Claims

[Claim 1]

A relay terminal block for relaying a plurality of input signals input from an external measurement apparatus and outputting the plurality of input signals to an external terminal for monitoring or measurement, the relay terminal block comprising:

a relay module; and

a select signal generation device for periodically generating a select signal, wherein

the relay module comprises:

a plurality of input signal transmission wires and one output signal transmission wire;

a plurality of select signal transmission wires for transmitting the select signal; and

a plurality of terminals to which the select signal transmission wires are connected; and

the relay module periodically and sequentially selects one input signal specified by the select signal input via the plurality of terminals, from among the plurality of input signals, and outputs the selected input signal via the output signal transmission wire.

[Claim 2]

The relay terminal block according to claim 1, comprising a second relay module for relaying an input signal and outputting the input signal to the external terminal by being connected to the relay terminal block, wherein

the second relay module comprises:

a plurality of input signal transmission wires and one output signal transmission wire; and

a plurality of select signal transmission wires for transmitting the select signal; and

the second relay module periodically and sequentially selects one input signal specified by the select signal, from among the plurality of input signals, and outputs the selected input signal via the output signal transmission wire.

[Claim 3]

The relay terminal block according to claim 1 or 2, further comprising an ADC, wherein

the selected input signal input to any of the plurality of the input signal transmission wire under Claim 1 or 2 is connected to the ADC, and

an output of the ADC is connected to any of the output signal transmission wire under Claim 1 or 2.

[Claim 4]

The relay terminal block according to any one of claims 1 to 3, further comprising a plurality of photocouplers, wherein

the input signal transmission wires are connected to the respective photocouplers, and

one input signal is periodically and sequentially selected from among signals input via the plurality of photocouplers.

[Claim 5]

The relay terminal block according to any one of claims 1 to 3, further comprising LED indicators, wherein

the input signal transmission wires are connected to the respective LED indicators.

[Claim 6]

The relay terminal block according to claim 1, wherein the relay module further comprises:

the plurality of input signal transmission wires, a first connector, a second connector, a third connector and a controller, wherein

the controller enables signals input via the first connector, the second connector and the input signal transmission wires to be serially output via the third connector when recognizing that the relay module is a master, and enables signals input via the input signal transmission wires to be serially output via the first

connector or the second connector when recognizing that the relay module is a slave.

[Claim 7]

The relay terminal block according to claim 6, wherein

the relay module recognizes that the relay module is a master when detecting that there is external connection at the third connector, and recognizes that the relay module is a slave when detecting that there is no external connection at the third connector.

[Claim 8]

A relay terminal block comprising a plurality of the relay modules according to claim 6 or 7, wherein

at least the first connector of each of the relay modules is electrically connected to the second connector of another relay module adjoining to the relay module, or the second connector of the relay module is electrically connected to the first connector of another relay module adjoining to the relay module.

[Claim 9]

The relay terminal block according to claim 8, wherein

one of the plurality of relay modules electrically connected to one another via the first connector or the second connector is specified as a master relay module, and the other relay modules are specified as slave relay modules,

the slave relay modules serially output signals input via the input signal transmission wires to the master relay module side via the first connector or the second connector, and

the master relay module serially outputs signals input via the input signal transmission wires and input signals input via at least one of the first connector and the second connector, via the third connector.