

3-5-6 Analog I/O specifications

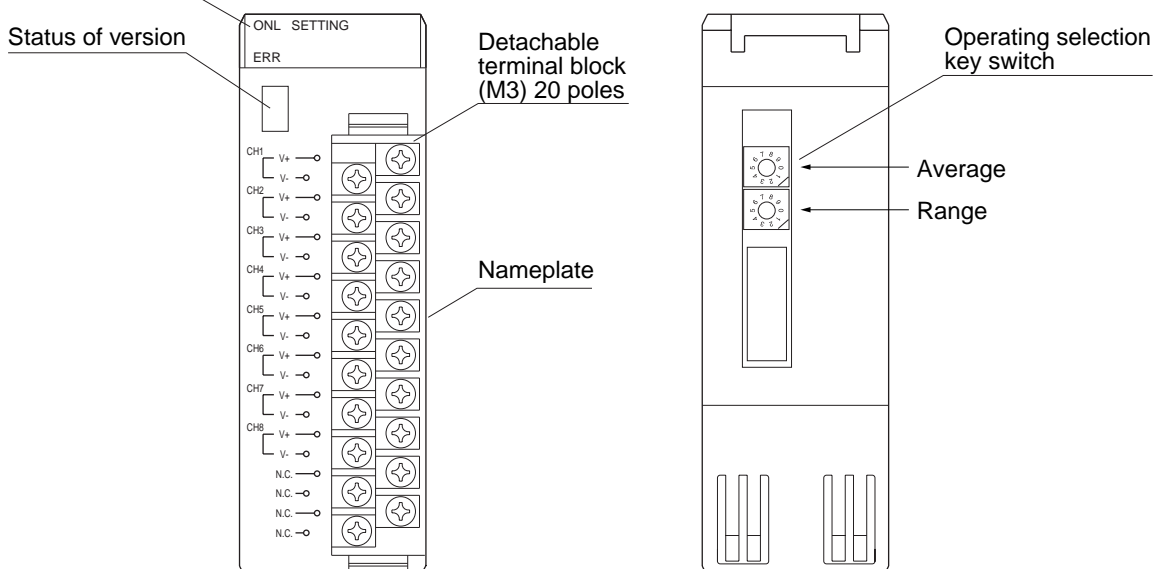
(1) Between channels insulated analog voltage input 8ch (NP1AXH8VG-MR)

Item	Specification				
Type	NP1AXH8VG-MR				
No. of input channels	8 channels				
Input impedance	1MΩ				
Input tolerance	Voltage input: ±15V				
Conversion characteristics	<table border="1"> <thead> <tr> <th>Analog input range (V)</th> <th>Digital output value</th> </tr> </thead> <tbody> <tr> <td>-10 to 10, 1 to 5, 0 to 5, 0 to 10</td> <td>-32000 to 32000 or 0 to 32000</td> </tr> </tbody> </table>	Analog input range (V)	Digital output value	-10 to 10, 1 to 5, 0 to 5, 0 to 10	-32000 to 32000 or 0 to 32000
	Analog input range (V)	Digital output value			
-10 to 10, 1 to 5, 0 to 5, 0 to 10	-32000 to 32000 or 0 to 32000				
Resolution	16 bits				
Reference accuracy (For full scale)	± 0.05% or less (at 18 to 28° C)				
Digital output format	INT type (integer)				
Sampling time	40ms or less/8 channels				
Input filtering time	Approx. 200μs or less (hard filter: primary delay time constant)				
Input delay time	40ms or less + Takt time (ms)				
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles			
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))			
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method	Between external terminal and internal logic: Photocoupler/transducer Between channels: Transducer				
Dielectric strength	1000V AC 1 minute				
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground, between analog channels)				
Internal current consumption	24V DC 150mA or less (when all channels are used)				
Occupied words	12 words (Input: 8 words, Output: 4 words)				
Mass	Approx. 280g				

* For more information about this module, refer to the "User's Manual Between Channels Insulated Multi-range Analog Module" (FEH189).

<Names>

Status indication LED



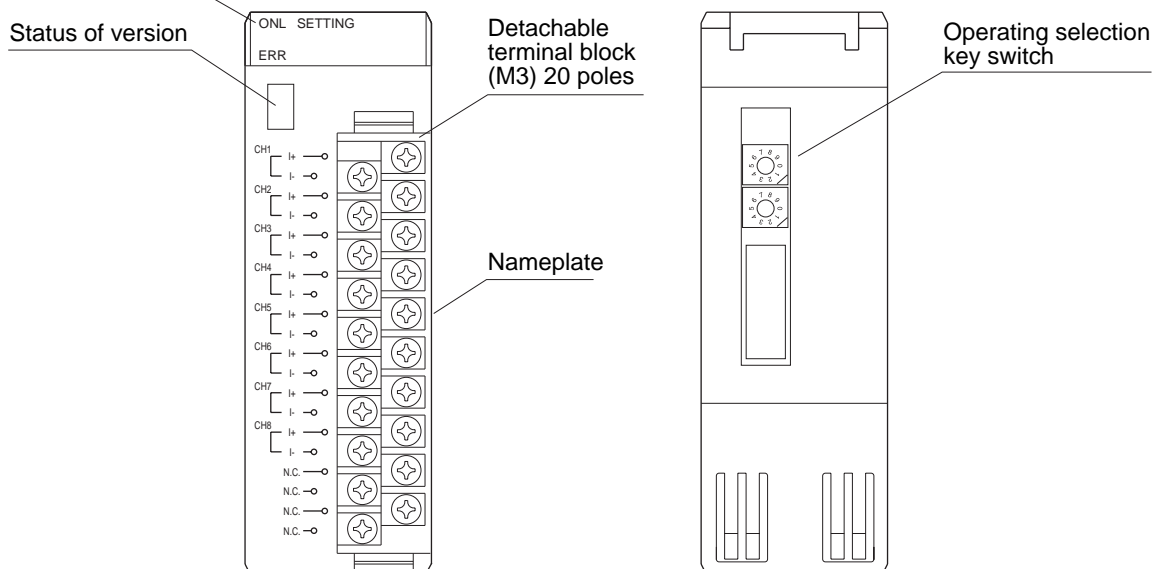
(2) Between channels insulated analog current input 8ch (NP1AXH8IG-MR)

Item		Specification				
Type		NP1AXH8IG-MR				
No. of input channels		8 channels				
Input impedance		250Ω				
Input tolerance		±30mA				
Conversion characteristics		<table border="1"> <thead> <tr> <th>Analog input range (mA)</th> <th>Digital output value</th> </tr> </thead> <tbody> <tr> <td>0 to 20, 4 to 20, -20 to 20</td> <td>-32000 to 32000 or 0 to 32000</td> </tr> </tbody> </table>	Analog input range (mA)	Digital output value	0 to 20, 4 to 20, -20 to 20	-32000 to 32000 or 0 to 32000
		Analog input range (mA)	Digital output value			
0 to 20, 4 to 20, -20 to 20	-32000 to 32000 or 0 to 32000					
Resolution		16 bits				
Reference accuracy (For full scale)		± 0.05% or less (at 18 to 28° C)				
Digital output format		INT type (integer)				
Sampling time		40ms or less/8 channels				
Input filtering time		200μs or less (hard filter: primary delay time constant)				
Input delay time		40ms or less + Takt time (ms)				
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles				
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))				
Status indication		ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method		Between external terminal and internal logic: Photocoupler/transducer Between channels: Transducer				
Dielectric strength		1000V AC 1 minute				
Insulation resistance		10MΩ or more with 500V DC megger (between I/O terminals and frame ground, between analog channels)				
Internal current consumption		24V DC 150mA or less (when all channels are used)				
Occupied words		12 words (Input: 8 words, Output: 4 words)				
Mass		Approx. 280g				

* For more information about this module, refer to the "User's Manual Between Channels Insulated Multi-range Analog Module" (FEH189).

<Names>

Status indication LED



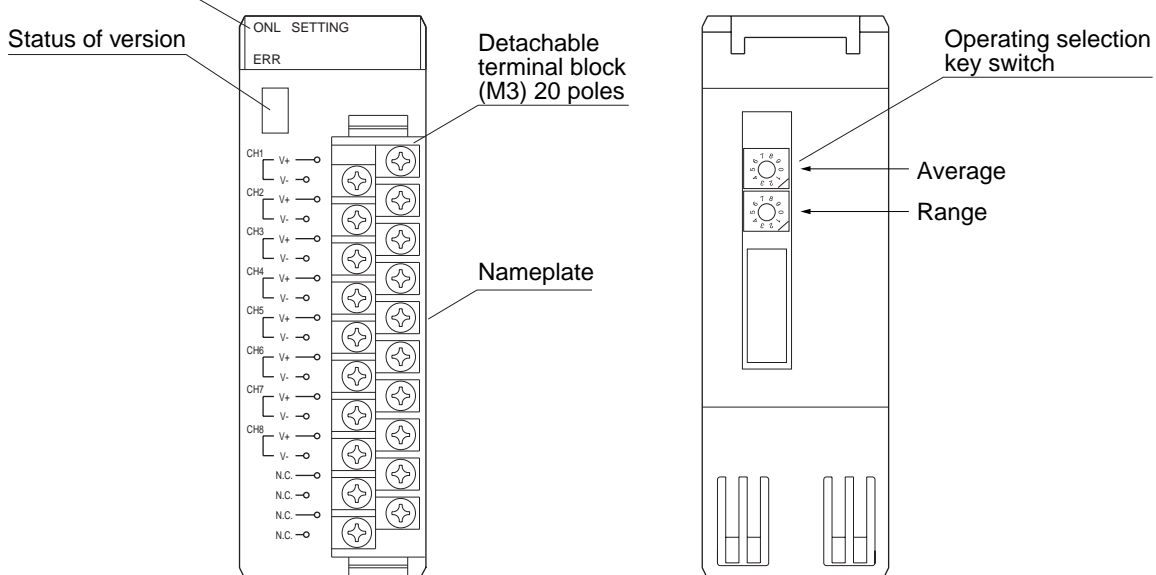
(3) High-speed analog voltage input 8ch (NP1AXH8V-MR)

Item	Specification				
Type	NP1AXH8V-MR				
No. of input channels	8 channels				
Input impedance	1MΩ				
Input tolerance	Voltage input: ±15V				
Conversion characteristics	<table border="1"> <thead> <tr> <th>Analog input range (V)</th> <th>Digital output value</th> </tr> </thead> <tbody> <tr> <td>-10 to 10, 1 to 5, 0 to 5, 0 to 10</td> <td>-8000 to 8000 or 0 to 16000</td> </tr> </tbody> </table>	Analog input range (V)	Digital output value	-10 to 10, 1 to 5, 0 to 5, 0 to 10	-8000 to 8000 or 0 to 16000
	Analog input range (V)	Digital output value			
-10 to 10, 1 to 5, 0 to 5, 0 to 10	-8000 to 8000 or 0 to 16000				
Resolution	14 bits (1.25mV)				
Overall accuracy (For full scale)	± 0.1% or less (at 18 to 28° C), ±0.2% or less (0 to 55° C) When 1 to 5V range: ±0.3% (0 to 55° C)				
Digital output format	INT type (integer)				
Sampling time	0.27ms x (The number of convert channels + 1)				
Input filtering time	Approx. 100μs or less (hard filter: primary delay time constant)				
Input delay time	2.5ms or less /8 points + Takt time (ms)				
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles			
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))			
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method	Photocoupler, not isolated between channels				
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground) (Short cut current: 5mA)				
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)				
Internal current consumption	24V DC 200mA or less (when all channels are used)				
Occupied words	12 words (Input: 8 words, Output: 4 words)				
Mass	Approx. 240g				

* For more information about this module, refer to the “User’s Manual 8ch Multi Range Analog I/O Module” (FEH206).

<Names>

Status indication LED



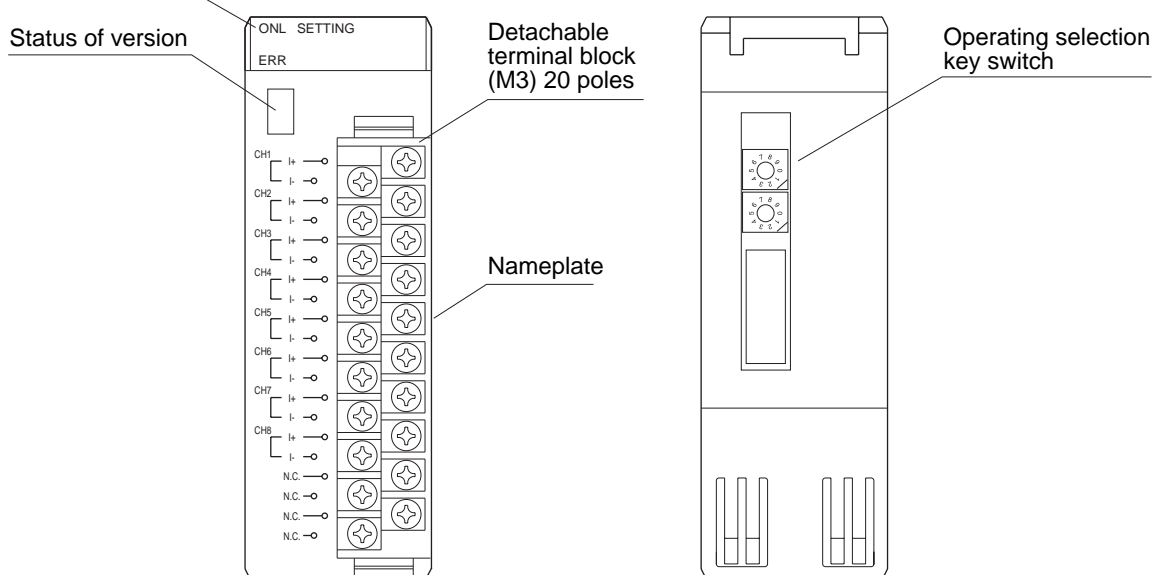
(4) High-speed analog current input 8ch (NP1AXH8I-MR)

Item		Specification				
Type		NP1AXH8I-MR				
No. of input channels		8 channels				
Input impedance		250Ω				
Input tolerance		±30mA				
Conversion characteristics		<table border="1"> <thead> <tr> <th>Analog input range (mA)</th> <th>Digital output value</th> </tr> </thead> <tbody> <tr> <td>0 to 20, 4 to 20, -20 to 20</td> <td>-8000 to 8000 or 0 to 16000</td> </tr> </tbody> </table>	Analog input range (mA)	Digital output value	0 to 20, 4 to 20, -20 to 20	-8000 to 8000 or 0 to 16000
Analog input range (mA)	Digital output value					
0 to 20, 4 to 20, -20 to 20	-8000 to 8000 or 0 to 16000					
Resolution		14 bits (2.5μA)				
Overall accuracy (For full scale)		± 0.1% or less (at 18 to 28° C), ±0.4% or less (0 to 55° C)				
Digital output format		INT type (integer)				
Sampling time		0.27ms x (The number of convert channels + 1)				
Input filtering time		100μs or less (hard filter: primary delay time constant)				
Input delay time		2.5ms or less /8 points + Takt time (ms)				
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles				
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))				
Status indication		ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method		Photocoupler, not isolated between channels				
Dielectric strength		500V AC 1 minute (between I/O terminals and frame ground) (Short cut current: 5mA)				
Insulation resistance		10MΩ or more with 500V DC megger (between I/O terminals and frame ground)				
Internal current consumption		24V DC 200mA or less (when all channels are used)				
Occupied words		12 words (Input: 8 words, Output: 4 words)				
Mass		Approx. 240g				

* For more information about this module, refer to the "User's Manual 8ch Multi Range Analog I/O Module" (FEH206).

<Names>

Status indication LED

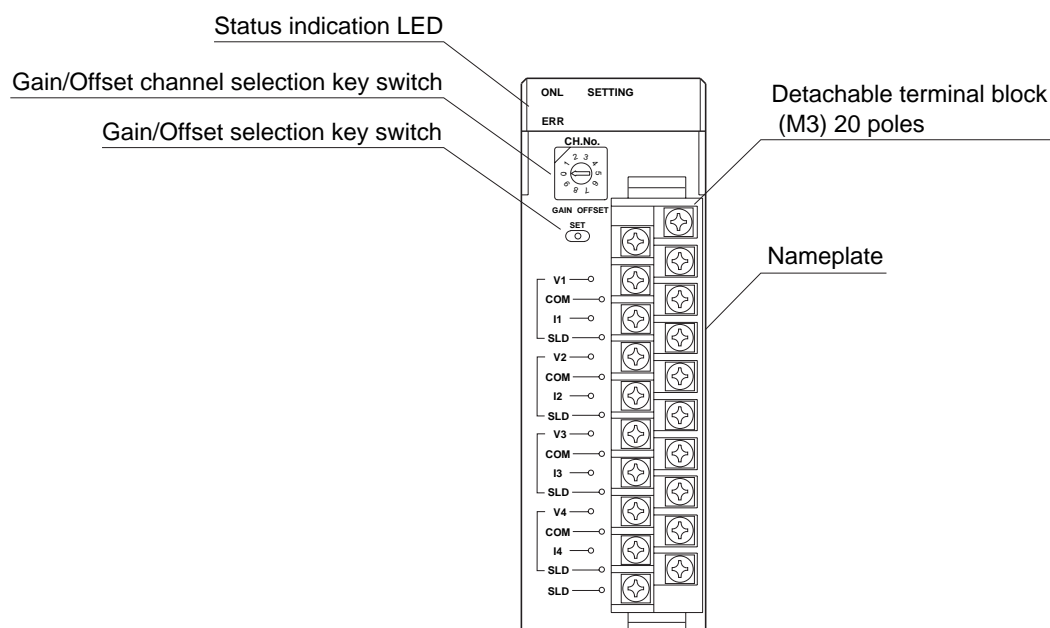


(5) High-speed analog input (NP1AXH4-MR)

Item	Specification									
Type	NP1AXH4-MR									
No. of input channels	4 channels									
Input impedance	Voltage input: 1MΩ , Current input: 250Ω									
Input tolerance	Voltage input: ±15V, Current input: ± 30mA									
Conversion characteristics	<table border="1"> <thead> <tr> <th>Input</th> <th>Analog input range</th> <th>Digital output value</th> </tr> </thead> <tbody> <tr> <td>Voltage (V)</td> <td>-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10</td> <td>-8000 to 8000 or 0 to 16000</td> </tr> <tr> <td>Current (mA)</td> <td>0 to 20, 4 to 20, -20 to 20</td> <td></td> </tr> </tbody> </table>	Input	Analog input range	Digital output value	Voltage (V)	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10	-8000 to 8000 or 0 to 16000	Current (mA)	0 to 20, 4 to 20, -20 to 20	
	Input	Analog input range	Digital output value							
	Voltage (V)	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10	-8000 to 8000 or 0 to 16000							
Current (mA)	0 to 20, 4 to 20, -20 to 20									
Resolution	14 bits									
Overall accuracy (For full scale)	± 0.1% or less (at 25° C), ±1.0% or less (0 to 55° C)									
Digital output format	INT type (integer)									
Sampling time	1 ms/4 channels									
Input filtering time	47μs									
Input delay time	1 ms + Takt time									
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles								
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))								
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on setting (Green LED)									
Isolation method	Photocoupler, not isolated between channels									
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground)									
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)									
Internal current consumption	24V DC 120mA or less (when all channels are used)									
Occupied words	10 words (Input: 8 words, Output: 2 words)									
Mass	Approx. 200g									

* For more information about this module, refer to the "User's Manual Multi Range Analog I/O Module" (FEH207).

<Names>

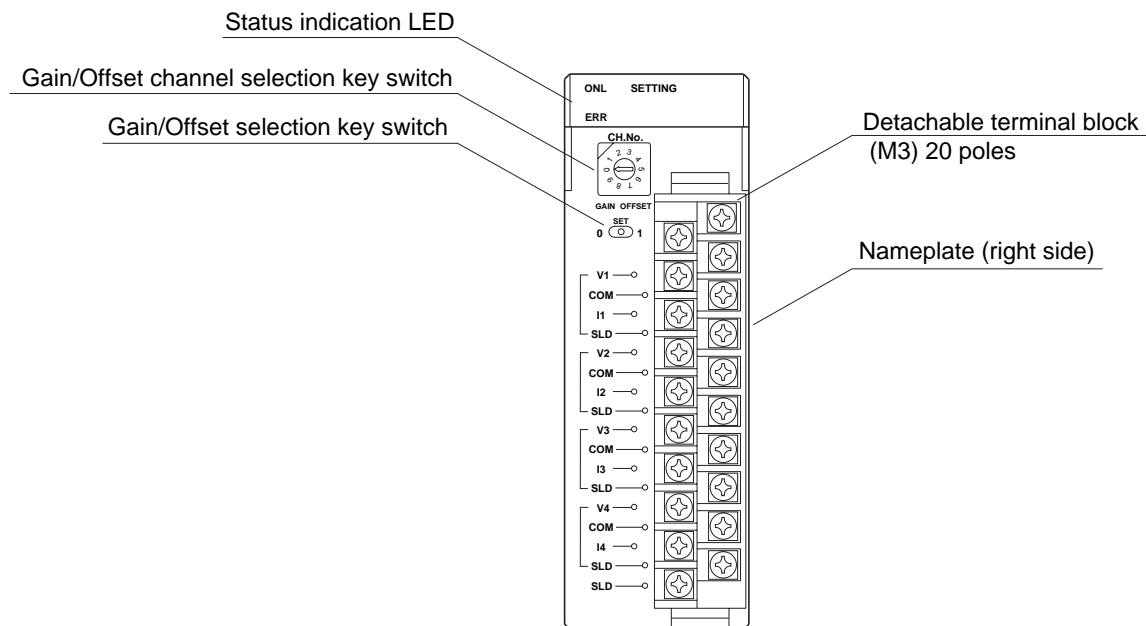


(6) Standard analog input (NP1AX04-MR)

Item	Specification									
Type	NP1AX04-MR									
No. of input channels	4 channels									
Input impedance	Voltage input: 1MΩ , Current input: 250Ω									
Input tolerance	Voltage input: ±15V, Current input: ± 30mA									
Conversion characteristics	<table border="1"> <thead> <tr> <th>Input</th> <th>Analog input range</th> <th>Digital output value</th> </tr> </thead> <tbody> <tr> <td>Voltage (V)</td> <td>-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10</td> <td>-500 to 500 or 0 to 1000</td> </tr> <tr> <td>Current (mA)</td> <td>0 to 20, 4 to 20, -20 to 20</td> <td>0 to 1000</td> </tr> </tbody> </table>	Input	Analog input range	Digital output value	Voltage (V)	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10	-500 to 500 or 0 to 1000	Current (mA)	0 to 20, 4 to 20, -20 to 20	0 to 1000
Input	Analog input range	Digital output value								
Voltage (V)	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10	-500 to 500 or 0 to 1000								
Current (mA)	0 to 20, 4 to 20, -20 to 20	0 to 1000								
Resolution	10 bits									
Overall accuracy (For full scale)	± 0.5% or less (at 25° C), ±1.0% or less (0 to 55° C)									
Digital output format	INT type (integer)									
Sampling time	4ms/4 channels									
Input filtering time	47μs									
Input delay time	4ms + Takt time									
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles								
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))								
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on setting (Green LED)									
Isolation method	Photocoupler, not isolated between channels									
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground)									
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)									
Internal current consumption	24V DC 120mA or less (when all channels are used)									
Occupied words	10 words (Input: 8 words, Output: 2 words)									
Mass	Approx. 200g									

* For more information about this module, refer to the "User's Manual Multi Range Analog I/O Module" (FEH207).

<Names>

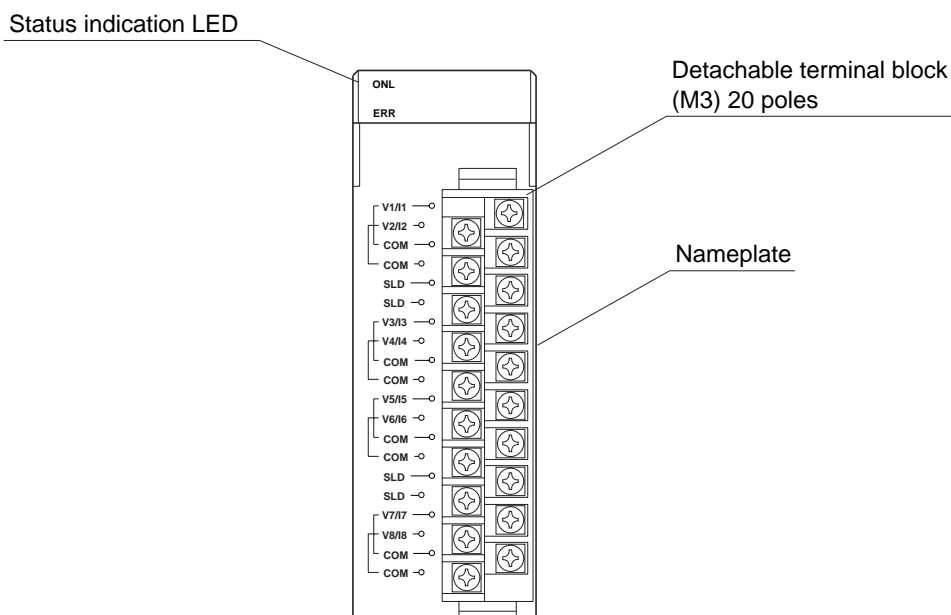


(7) Standard analog input (Voltage input (NP1AX08V-MR), Current input (NP1AX08I-MR))

Item	Specification									
Type	NP1AX08V-MR (Voltage input), NP1AX08I-MR (Current input)									
No. of input channels	8 channels									
Input impedance	Voltage input: 1MΩ , Current input: 250Ω									
Input tolerance	Voltage input: ±15V, Current input: ± 30mA									
Conversion characteristics	<table border="1"> <thead> <tr> <th>Input</th> <th>Analog input range</th> <th>Digital output value</th> </tr> </thead> <tbody> <tr> <td>Voltage (V)</td> <td>-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10</td> <td>-500 to 500 or 0 to 1000</td> </tr> <tr> <td>Current (mA)</td> <td>0 to 20, 4 to 20, -20 to 20</td> <td></td> </tr> </tbody> </table>	Input	Analog input range	Digital output value	Voltage (V)	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10	-500 to 500 or 0 to 1000	Current (mA)	0 to 20, 4 to 20, -20 to 20	
Input	Analog input range	Digital output value								
Voltage (V)	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10	-500 to 500 or 0 to 1000								
Current (mA)	0 to 20, 4 to 20, -20 to 20									
Resolution	10 bits									
Overall accuracy (For full scale)	± 0.5% or less (at 25° C), ±1.0% or less (0 to 55° C)									
Digital output format	INT type (integer)									
Sampling time	1ms + 0.5ms x (The number of convert channels + 1)									
Input filtering time	47μs (Hardware filter: Primary delay time constant)									
Input delay time	5ms or less + Takt time (ms)									
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles								
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))								
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on setting (Green LED)									
Isolation method	Photocoupler, not isolated between channels									
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground)									
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)									
Internal current consumption	24V DC 120mA or less (when all channels are used)									
Occupied words	18 words (Input: 16 words, Output: 2 words)									
Mass	Approx. 200g									

* For more information about this module, refer to the “User’s Manual Multi Range Analog I/O Module” (FEH216).

<Names>



(8) Between channels insulated analog voltage output 4ch (NP1AYH4VG-MR)

Item		Specification				
Type		NP1AYH4VG-MR				
No. of output channels		4 channels				
External load resistance		When 0 to 5V, 1 to 5V: 500Ω or more When 0 to 10V, -10 to 10V: 1 kΩ or more				
Conversion characteristics		<table border="1"> <thead> <tr> <th>Digital input value</th> <th>Analog output range (V)</th> </tr> </thead> <tbody> <tr> <td>-16000 to 16000 or 0 to 16000</td> <td>-10 to 10, 1 to 5, 0 to 5, 0 to 10</td> </tr> </tbody> </table>	Digital input value	Analog output range (V)	-16000 to 16000 or 0 to 16000	-10 to 10, 1 to 5, 0 to 5, 0 to 10
Digital input value	Analog output range (V)					
-16000 to 16000 or 0 to 16000	-10 to 10, 1 to 5, 0 to 5, 0 to 10					
Resolution		15 bits				
Reference accuracy (For full scale)		± 0.1% or less (at 18 to 28° C)				
Digital input format		INT type (integer)				
Output delay time		0.6ms or less + Takt time (ms)				
Wire connections	External wire connections	Detachable screw terminal block (M3) 10 poles				
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))				
Status indication		ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method		Between external terminal and internal logic: Photocoupler/transducer Between channels: Transducer				
Dielectric strength		1000V AC 1 minute				
Internal current consumption		24V DC 200mA or less (when all channels are used)				
Occupied words		8 words (Input: 4 words, Output: 4 words)				
Mass		Approx. 300g				

* For more information about this module, refer to the "User's Manual Between Channels Insulated Multi-range Analog Module" (FEH189).

<Names>

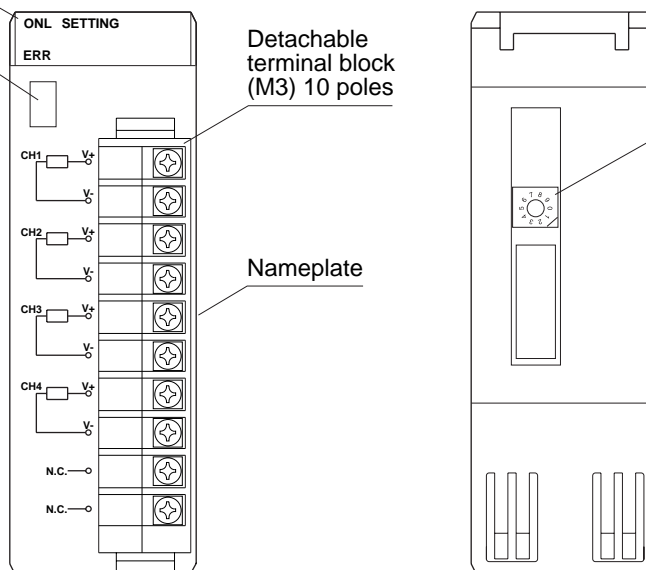
Status indication LED

Status of version

Detachable terminal block (M3) 10 poles

Nameplate

Operating selection key switch

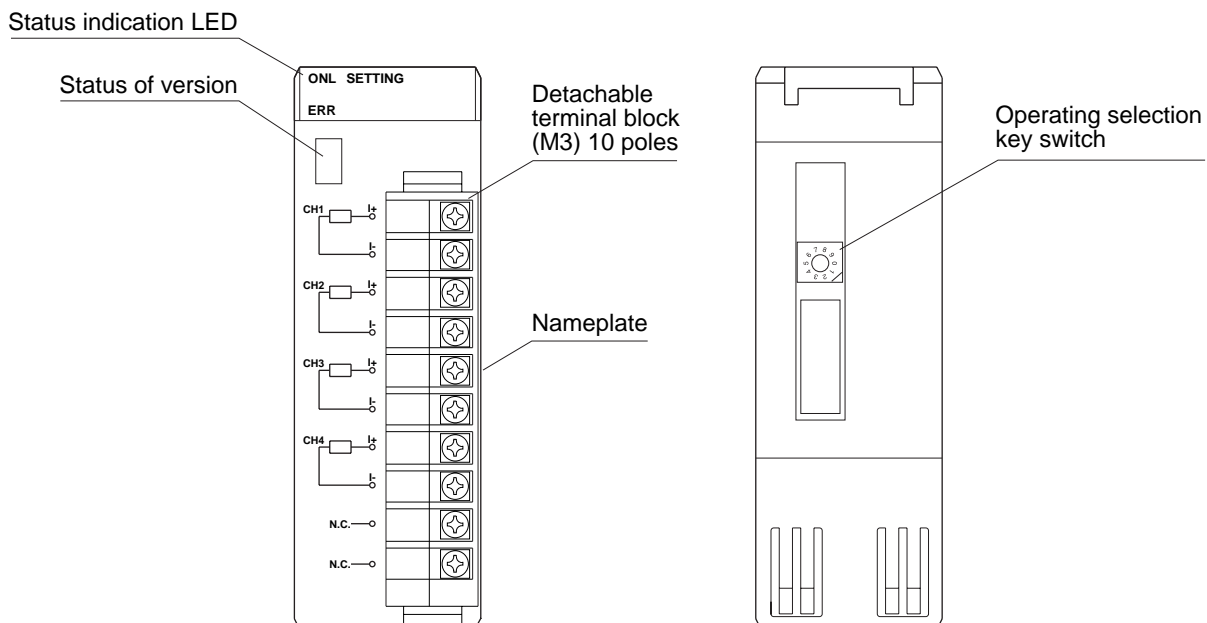


(9) Between channels insulated analog current output 4ch (NP1AYH4IG-MR)

Item		Specification				
Type		NP1AYH4IG-MR				
No. of output channels		4 channels				
External load resistance		600Ω or less				
Conversion characteristics		<table border="1"> <thead> <tr> <th>Digital input value</th> <th>Analog output range (mA)</th> </tr> </thead> <tbody> <tr> <td>0 to 16000</td> <td>0 to 20, 4 to 20</td> </tr> </tbody> </table>	Digital input value	Analog output range (mA)	0 to 16000	0 to 20, 4 to 20
Digital input value	Analog output range (mA)					
0 to 16000	0 to 20, 4 to 20					
Resolution		15 bits				
Reference accuracy (For full scale)		± 0.1% or less (at 18 to 28° C)				
Digital input format		INT type (integer)				
Output delay time		0.6ms or less + Takt time (ms)				
Wire connections	External wire connections	Detachable screw terminal block (M3) 10 poles				
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))				
Status indication		ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method		Between external terminal and internal logic: Photocoupler/transducer Between channels: Transducer				
Dielectric strength		1000V AC 1 minute				
Insulation resistance		10MΩ or more with 500V DC megger (between I/O terminals and frame ground, between analog channels)				
Internal current consumption		24V DC 200mA or less (when all channels are used)				
Occupied words		8 words (Input: 4 words, Output: 4 words)				
Mass		Approx. 300g				

* For more information about this module, refer to the "User's Manual Between Channels Insulated Multi-range Analog Module" (FEH189).

<Names>



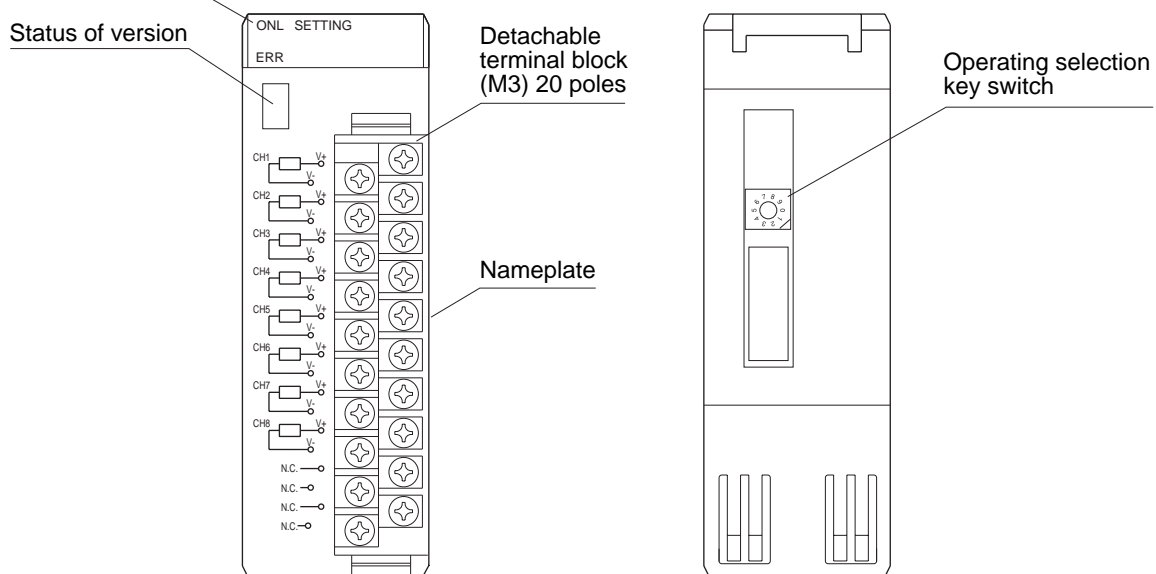
(10) High-speed analog voltage output 8ch (NP1AYH8V-MR)

Item	Specification				
Type	NP1AYH8V-MR				
No. of output channels	8 channels				
External load resistance	When 0 to 5V, 1 to 5V: 500Ω or more When 0 to 10V, -10 to 10V: 1 kΩ or more				
Conversion characteristics	<table border="1"> <thead> <tr> <th>Digital input value</th> <th>Analog output range (V)</th> </tr> </thead> <tbody> <tr> <td>-8000 to 8000 or 0 to 16000</td> <td>-10 to 10, 1 to 5, 0 to 5, 0 to 10</td> </tr> </tbody> </table>	Digital input value	Analog output range (V)	-8000 to 8000 or 0 to 16000	-10 to 10, 1 to 5, 0 to 5, 0 to 10
Digital input value	Analog output range (V)				
-8000 to 8000 or 0 to 16000	-10 to 10, 1 to 5, 0 to 5, 0 to 10				
Resolution	14 bits (1.25mV)				
Overall accuracy (For full scale)	± 0.1% or less (at 18 to 28° C), ±0.2% or less (0 to 55° C) When 1 to 5V range: ±0.3% (0 to 55° C)				
Digital input format	INT type (integer)				
Output delay time	2.0ms or less /8 points + Takt time				
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles			
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))			
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method	Photocoupler, not isolated between channels				
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground) (Short cut current: 5mA)				
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)				
Internal current consumption	24V DC 240mA or less (when all channels are used)				
Occupied words	12 words (Input: 4 words, Output: 8 words)				
Mass	Approx. 240g				

* For more information about this module, refer to the "User's Manual 8ch Multi Range Analog I/O Module" (FEH206).

<Names>

Status indication LED

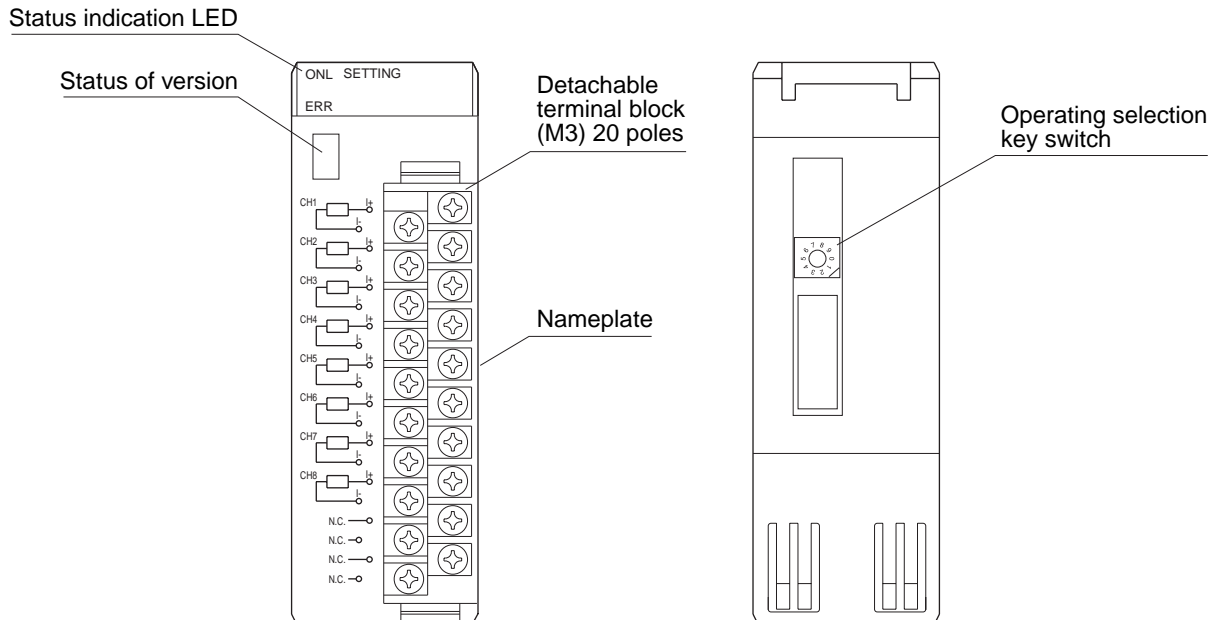


(11) High-speed analog current output 8ch (NP1AYH8I-MR)

Item	Specification				
Type	NP1AYH8I-MR				
No. of output channels	8 channels				
External load resistance	600Ω or less				
Conversion characteristics	<table border="1"> <thead> <tr> <th>Digital input value</th> <th>Analog output range (mA)</th> </tr> </thead> <tbody> <tr> <td>0 to 16000</td> <td>0 to 20, 4 to 20</td> </tr> </tbody> </table>	Digital input value	Analog output range (mA)	0 to 16000	0 to 20, 4 to 20
	Digital input value	Analog output range (mA)			
0 to 16000	0 to 20, 4 to 20				
Resolution	14 bits (2.5μA)				
Overall accuracy (For full scale)	± 0.1% or less (at 18 to 28° C), ±0.4% or less (0 to 55° C)				
Digital input format	INT type (integer)				
Output delay time	2.0ms or less /8 points + Takt time				
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles			
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))			
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method	Photocoupler, not isolated between channels				
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground) (Short cut current: 5mA)				
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)				
Internal current consumption	24V DC 300mA or less (when all channels are used)				
Occupied words	12 words (Input: 4 words, Output: 8 words)				
Mass	Approx. 240g				

* For more information about this module, refer to the "User's Manual 8ch Multi Range Analog I/O Module" (FEH206).

<Names>

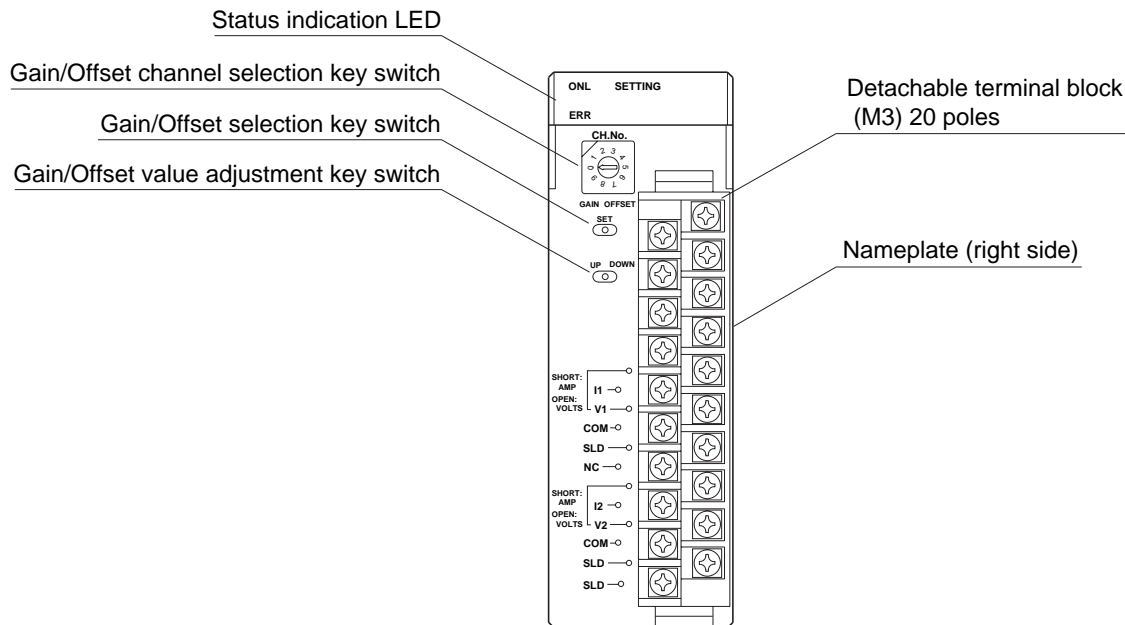


(12) High-speed analog output (NP1AYH2-MR)

Item	Specification									
Type	NP1AYH2-MR									
No. of output channels	2 channels									
External load resistance	Voltage output: 1 kΩ or more, Current output: 600Ω or less									
Conversion characteristics	<table border="1"> <thead> <tr> <th>Output</th> <th>Digital input value</th> <th>Analog output range</th> </tr> </thead> <tbody> <tr> <td>Voltage (V)</td> <td>-8000 to 8000 or</td> <td>-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10</td> </tr> <tr> <td>Current (mA)</td> <td>0 to 16000</td> <td>0 to 20, 4 to 20</td> </tr> </tbody> </table>	Output	Digital input value	Analog output range	Voltage (V)	-8000 to 8000 or	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10	Current (mA)	0 to 16000	0 to 20, 4 to 20
Output	Digital input value	Analog output range								
Voltage (V)	-8000 to 8000 or	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10								
Current (mA)	0 to 16000	0 to 20, 4 to 20								
Resolution	14 bits									
Overall accuracy (For full scale)	± 0.1% or less (at 25° C), ±1.0% or less (0 to 55° C)									
Digital input format	INT type (integer)									
Output delay time	1 ms + Takt time									
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles								
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))								
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on setting (Green LED)									
Isolation method	Photocoupler, not isolated between channels									
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground)									
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)									
Internal current consumption	24V DC 120mA or less (when all channels are used)									
Occupied words	6 words (Input: 2 words, Output: 4 words)									
Mass	Approx. 200g									

* For more information about this module, refer to the "User's Manual Multi Range Analog I/O Module" (FEH207).

<Names>



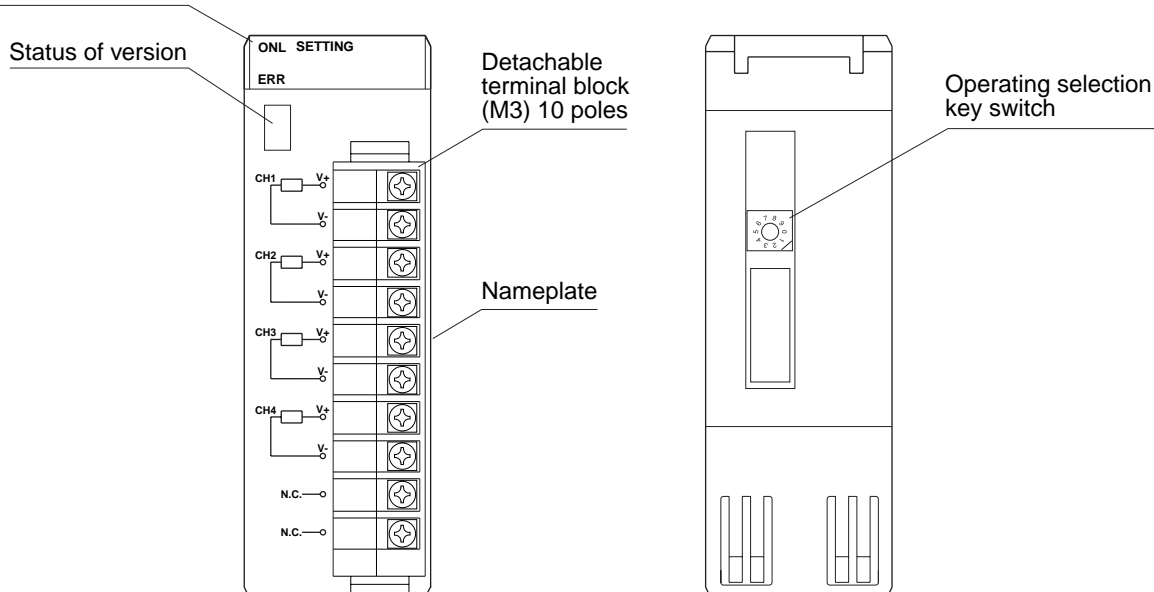
(13) High-speed analog voltage output 4ch (NP1AYH4V-MR)

Item	Specification				
Type	NP1AYH4V-MR				
No. of output channels	4 channels				
External load resistance	When 0 to 5V, 1 to 5V: 500Ω or more When 0 to 10V, -10 to 10V: 1 kΩ or more				
Conversion characteristics	<table border="1"> <thead> <tr> <th>Digital input value</th> <th>Analog output range (V)</th> </tr> </thead> <tbody> <tr> <td>-8000 to 8000 or 0 to 16000</td> <td>-10 to 10, 1 to 5, 0 to 5, 0 to 10</td> </tr> </tbody> </table>	Digital input value	Analog output range (V)	-8000 to 8000 or 0 to 16000	-10 to 10, 1 to 5, 0 to 5, 0 to 10
Digital input value	Analog output range (V)				
-8000 to 8000 or 0 to 16000	-10 to 10, 1 to 5, 0 to 5, 0 to 10				
Resolution	14 bits				
Overall accuracy (For full scale)	± 0.1% or less (at 18 to 28° C), ±0.2% or less (0 to 55° C) When 1 to 5V range: ±0.3% (0 to 55° C)				
Digital input format	INT type (integer)				
Output delay time	2.0ms or less /8 points + Takt time				
Wire connections	External wire connections	Detachable screw terminal block (M3) 10 poles			
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))			
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method	Photocoupler, not isolated between channels				
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground) (Short cut current: 5mA)				
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)				
Internal current consumption	24V DC 200mA or less (when all channels are used)				
Occupied words	8 words (Input: 4 words, Output: 4 words)				
Mass	Approx. 240g				

* For more information about this module, refer to the "User's Manual 8ch Multi Range Analog I/O Module" (FEH206).

<Names>

Status indication LED

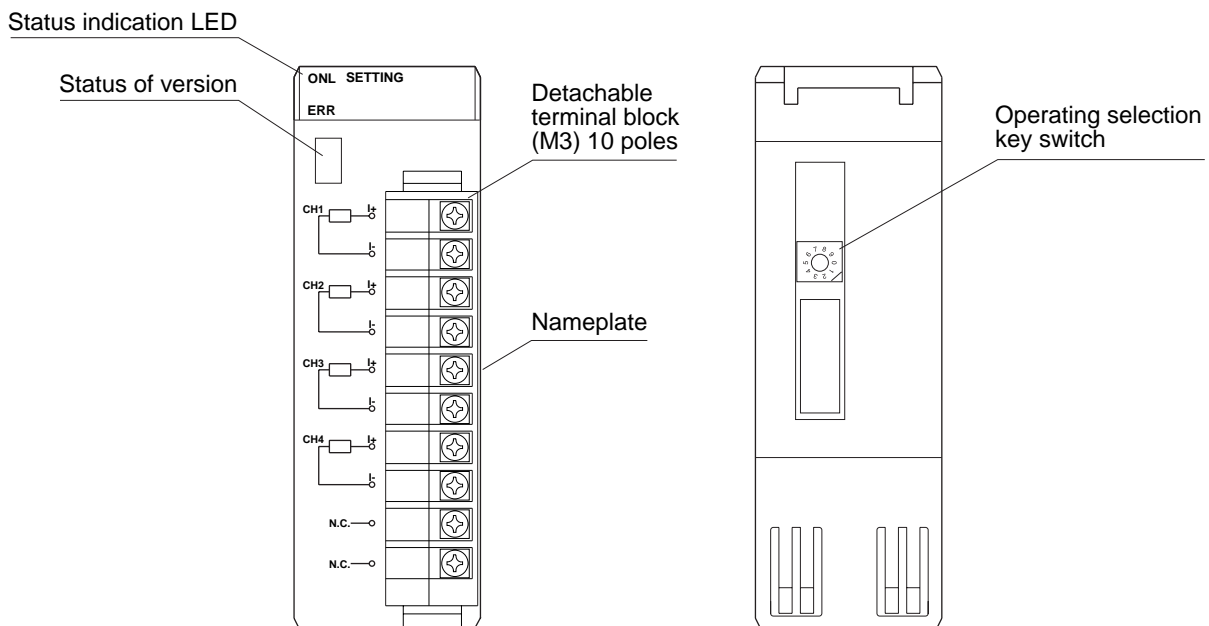


(14) High-speed analog current output 4ch (NP1AYH4I-MR)

Item		Specification				
Type		NP1AYH4I-MR				
No. of output channels		4 channels				
External load resistance		600Ω or less				
Conversion characteristics		<table border="1"> <tr> <td>Digital input value</td> <td>Analog output range (mA)</td> </tr> <tr> <td>0 to 16000</td> <td>0 to 20, 4 to 20</td> </tr> </table>	Digital input value	Analog output range (mA)	0 to 16000	0 to 20, 4 to 20
		Digital input value	Analog output range (mA)			
0 to 16000	0 to 20, 4 to 20					
Resolution		14 bits (2.5μA)				
Overall accuracy (For full scale)		± 0.1% or less (at 18 to 28° C), ±0.4% or less (0 to 55° C)				
Digital input format		INT type (integer)				
Output delay time		2.0ms or less /8 points + Takt time				
Wire connections	External wire connections	Detachable screw terminal block (M3) 10 poles				
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))				
Status indication		ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on Gain/Offset setting (Green LED)				
Isolation method		Photocoupler, not isolated between channels				
Dielectric strength		500V AC 1 minute (between I/O terminals and frame ground) (Short cut current: 5mA)				
Insulation resistance		10MΩ or more with 500V DC megger (between I/O terminals and frame ground)				
Internal current consumption		24V DC 200mA or less (when all channels are used)				
Occupied words		8 words (Input: 4 words, Output: 4 words)				
Mass		Approx. 240g				

* For more information about this module, refer to the "User's Manual 8ch Multi Range Analog I/O Module" (FEH206).

<Names>

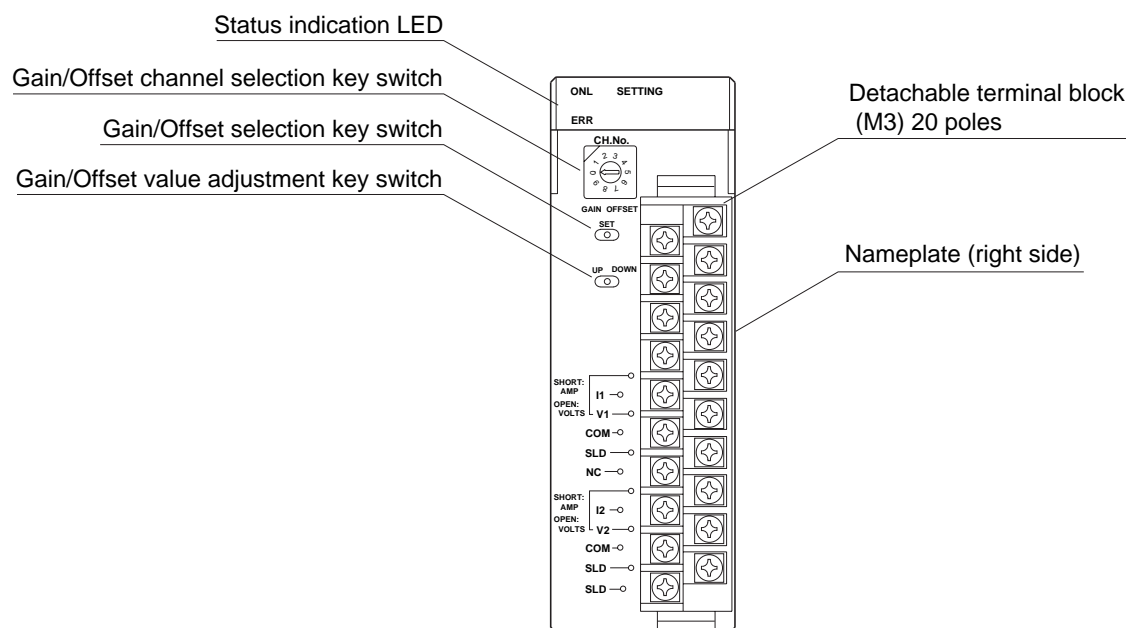


(15) Standard analog output (NP1AY02-MR)

Item	Specification									
Type	NP1AY02-MR									
No. of output channels	2 channels									
External load resistance	Voltage output: 1 kΩ or more, Current output: 600Ω or less									
Conversion characteristics	<table border="1"> <thead> <tr> <th>Output</th> <th>Digital input value</th> <th>Analog output range</th> </tr> </thead> <tbody> <tr> <td>Voltage (V)</td> <td>-500 to 500 or</td> <td>-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10</td> </tr> <tr> <td>Current (mA)</td> <td>0 to 1000</td> <td>0 to 20, 4 to 20</td> </tr> </tbody> </table>	Output	Digital input value	Analog output range	Voltage (V)	-500 to 500 or	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10	Current (mA)	0 to 1000	0 to 20, 4 to 20
Output	Digital input value	Analog output range								
Voltage (V)	-500 to 500 or	-10 to 10, -5 to 5, 1 to 5, 0 to 5, 0 to 10								
Current (mA)	0 to 1000	0 to 20, 4 to 20								
Resolution	10 bits									
Overall accuracy (For full scale)	± 0.5% or less (at 25° C), ±1.0% or less (0 to 55° C)									
Digital input format	INT type (integer)									
Output delay time	2ms + Takt time									
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles								
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))								
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED), SETTING: light or blink on setting (Green LED)									
Isolation method	Photocoupler, not isolated between channels									
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground)									
Insulation resistance	10MΩ or more with 500V DC megger (between I/O terminals and frame ground)									
Internal current consumption	24V DC 120mA or less (when all channels are used)									
Occupied words	6 words (Input: 2 words, Output: 4 words)									
Mass	Approx. 200g									

* For more information about this module, refer to the "User's Manual Multi Range Analog I/O Module" (FEH207).

<Names>



(16) 6 Channel high-accuracy resistance thermometer element input (NP1AXH6G-PT)

Item		Specifications
Type		NP1AXH6G-PT
No. of input channels		6 channels
Applicable resistance thermometer element		Platinum resistance thermometer element (Pt100, JPt100)
Reference accuracy (For full scale)		More than large of $\pm 0.05\%$ or $\pm 0.07^\circ \text{C}$ (Ambient temperature: 18 to 28° C)
Resistance of input wiring		20Ω or less
Sampling interval		80ms/6 channels
Input filtering time		Hardware (time constant) : 30ms Digital filter time:1 to 100s (It is possible to set every 1 second)
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles
	Applicable wire size	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))
Status indication		ONL: normal (Green LED), ERR: abnormal (Red LED)
Isolation method		Between external terminal and internal logic: Photocoupler/transducer Between channels: Transducer
Dielectric strength		1000V AC 1 minute (between external I/O terminals and frame ground)
Insulation resistance		10MΩ or more with 500V DC megger
Internal current consumption		24V DC 150mA or less
Occupied words		12 words (Input: 8 words, Output: 4 words)
Mass		Approx. 300g

* For more information about this module, refer to the "User's Manual Resistance Thermometer Element Input Module" (FEH208).

<Names>

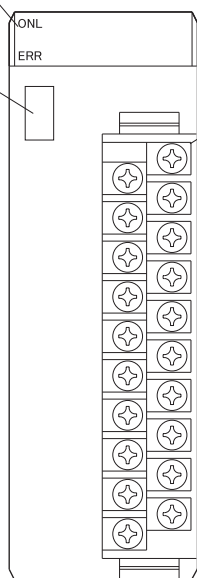
Status indication LED

Status of version

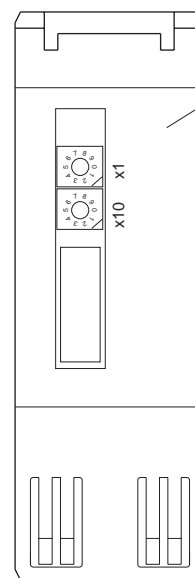
Detachable terminal block

Nameplate

Resistance thermometer element type selection switch



Front



Rear

(17) Resistance thermometer element input (NP1AXH4-PT)

Item	Specifications
Type	NP1AXH4-PT
No. of input channels	4 channels
Applicable resistance thermometer element	Platinum resistance thermometer element (Pt100, JPt100)
Accuracy (To the full scale)	±0.3, ±1Digit (Ambient temperature: 18 to 28° C) ±0.7, ±1Digit (Ambient temperature: 0 to 55° C)
Resistance of input wiring	10Ω or less
Sampling interval	500ms/4channels
Input filtering time	Hardware (time constant) : 50ms Digital filter time:1 to 100s (It is possible to set every 1 second)
Wire connections	External wire connections
	Applicable wire size
	Detachable screw terminal block (M3) 20 poles
	AWG#22-18 (Shielding twist pair wire (the wick line is a stranded wire.))
Status indication	ONL: normal (Green LED), ERR: abnormal (Red LED)
Isolation method	Photocoupler
Dielectric strength	500V AC 1 minute (between I/O terminals and frame ground)
Insulation resistance	10MΩ or more with 500V DC megger
Internal current consumption	24V DC 150mA or less
Occupied words	16 words (Input: 8 words, Output: 8 words)
Mass	Approx. 240g

* For more information about this module, refer to the “User’s Manual Resistance Thermometer Element Input Module” (FEH208).

<Names>

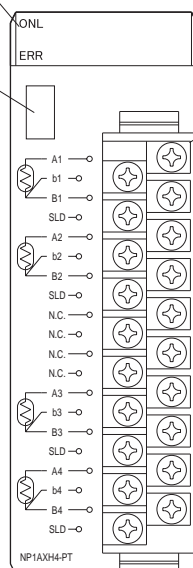
Status indication LED

Status of version

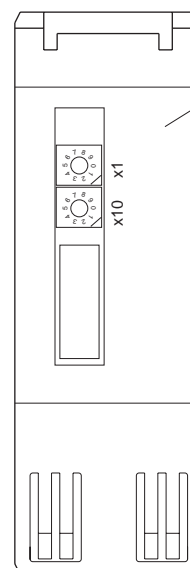
Detachable terminal block

Nameplate

Resistance thermometer element type selection switch



Front



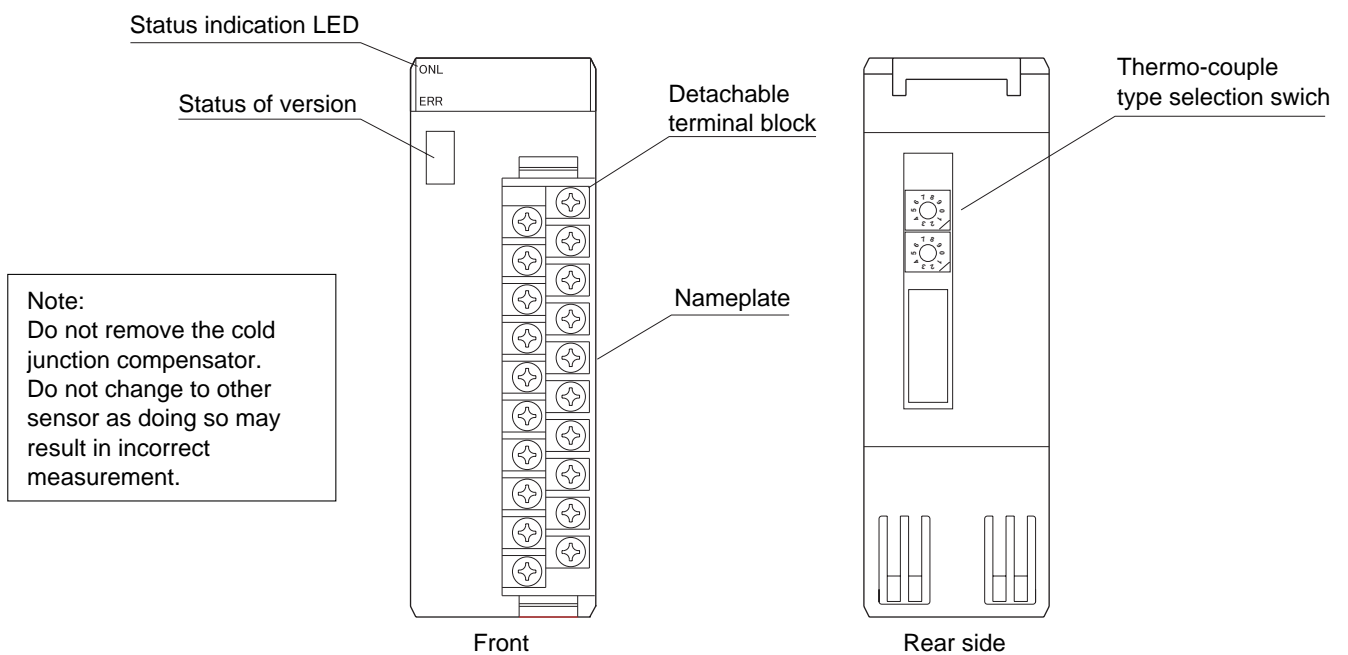
Rear

(18) 8 Channel high-accuracy Thermocouple input (NP1AXH8G-TC)

Item		Specifications
Type		NP1AXH8G-TC
No. of input channels		8 channels
Applicable resistance Thermo-couple element		JIS Standard: R, K, J, S, B, E, T, N ASTN Standard: W5Re, W26Re, PL II DIN Standard: U, L
Reference junction compensation accuracy		±1° C (Ambient temperature: 118 to 28° C)
Reference accuracy (To the full scale)		± 0.05% or less (at 18 to 28° C)
Resistance of input wiring (per 1 wire)		100Ω or less
Sampling interval		80ms/8 channels
Input filtering time		Hardware (time constant) : 30ms Digital filtering time:1 to 100s (It is possible to set every 1 second)
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles
	Applicable wire size	AWG#22-18 (Shielding compensation wire (the wick line is a stranded wire.))
Status indication		ONL: normal (Green LED), ERR: abnormal (Red LED)
Isolation method		Between external terminal and internal logic: Photocoupler/transducer Between channels: Transducer
Dielectric strength		1000V AC 1 minute (between external I/O terminals and frame ground)
Insulation resistance		10MΩ or more with 500V DC megger
Internal current consumption		24V DC 150mA or less
Occupied words		12 words (Input: 8 words, Output: 4 words)
Mass		Approx. 300g

* For more information about this module, refer to the "User's Manual Thermo-couple Input Module" (FEH209).

<Names>



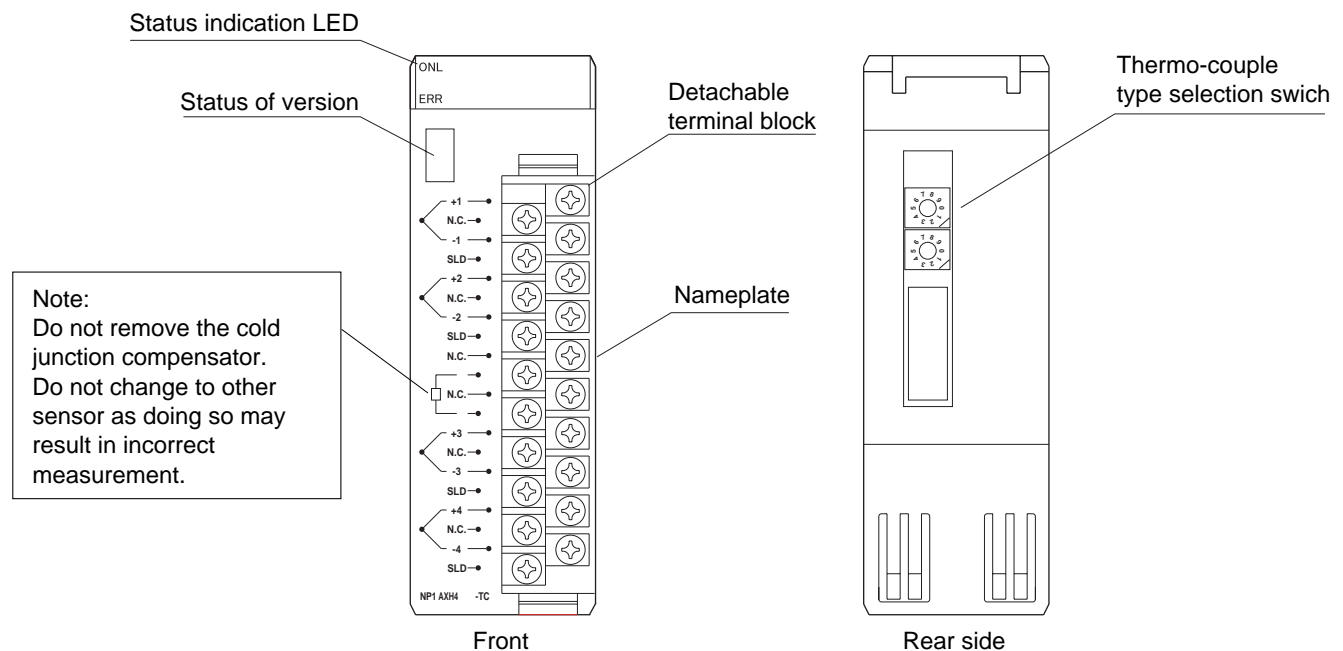
Note:
Do not remove the cold junction compensator.
Do not change to other sensor as doing so may result in incorrect measurement.

(19) Thermocouple input (NP1AXH4-TC)

Item		Specifications
Type		NP1AXH4-TC
No. of input channels		4 channels
Applicable resistance Thermo-couple element		JIS Standard: R, K, J, S, B, E, T, N ASTN Standard: W5Re, W26Re, PL II DIN Standard: U, L
Reference junction compensation accuracy		±1° C (Ambient temperature: 118 to 28° C)
Accuracy (To the full scale)		±0.3% (Ambient temperature: 18 to 28° C) ±0.7% (Ambient temperature: 0 to 55° C)
Resistance of input wiring (per 1 wire)		10Ω or less
Sampling interval		500ms/4channels
Input filtering time		Hardware (time constant) : 50ms Digital filtering time:1 to 100s (It is possible to set every 1 second)
Wire connections	External wire connections	Detachable screw terminal block (M3) 20 poles
	Applicable wire size	AWG#22-18 (Shielding compensation wire (the wick line is a stranded wire.))
Status indication		ONL: normal (Green LED), ERR: abnormal (Red LED)
Isolation method		Photocoupler, Between channel: Transformer
Dielectric strength		500V AC 1 minute (between I/O terminals and frame ground)
Insulation resistance		10MΩ or more with 500V DC megger
Internal current consumption		24V DC 150mA or less
Occupied words		16 words (Input: 8 words, Output: 8 words)
Mass		Approx. 240g

* For more information about this module, refer to the "User's Manual Thermo-couple Input Module" (FEH209).

<Names>



(20) High Speed Multi-Range Analog 6 channels I/O Mixed Module (NP1AWH6-MR)

Item	Specification		
Type	NP1AWH6-MR		
Analog input	No. of input points	4	
	Analog input range	0 to 5V, 1 to 5V, 0 to 10V, -10 to 10V	0 to 20mA, 4 to 20mA, -20 to 20mA
	Input impedance	1MΩ	250Ω
	Input tolerance	± 15V	± 30mA
	Max. resolution	0.625mV	2.5μA
	Digital conversion value (INT type)	0 to 16000, -8000 to 8000	
	Sampling interval	0.25 ms x (Conversion permission channels)	
	Input filtering times	47μs or less (hardware filtering times: primary delay time constant)	
Analog output	No. of output points	2	
	Analog output range	0 to 5V, 1 to 5V, 0 to 10V, -10 to 10V	0 to 20mA, 4 to 20mA
	External load resistance	2kΩ or more	500Ω or less
	Max. resolution	0.625mV	2.5μA
	Digital conversion value (INT type)	0 to 16000, -8000 to 8000	
	Output response times	0.5 ms or less + takt time (ms)	
	Load short-circuit protection	Provided (voltage output) (See note 1.)	
Measurement accuracy	Ambient temperature 18 to 28 ° C: ± 0.1% (of full scale) Ambient temperature 0 to 55 ° C: ± 0.2% (of full scale) (See note 2.)		
External cable connections	Detachable screw terminal (M3) 10 poles		
Applicable cable	Be sure to use shielded twisted pair cable.		
Processing of unused channel	Input: To basically be short-circuited (between V+ and COM) Output: To basically be opened.		
Number of occupied slots	1 slot		
Number of occupied words	Input: 4 words, Output: 4 words (fixed)		
Internal current consumption	24V DC 200mA or less		
Mass	Approx. 240g		

Note 1: Short-circuit protection for arbitrary one channel. The occurrence of short-circuit on multiple channels in an environment where ambient temperature is higher than 30°C may have a bad influence on internal electric component of the module.

Note 2: For the range of 4 to 20 mA and 0 to 20 mA, ±0.3% (of full scale) when ambient temperature is 0 to 55°C.

* For more detail specifications and operation about this module, refer to the “User’s Manual High Speed Multi-Range Analog Module” (FEH206).

<Names>

