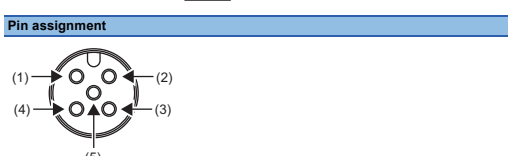
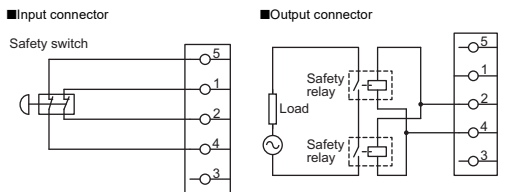


To connect to the module, use the power supply that meets the following condition:
Pour réaliser le raccord au module, utilisez l'alimentation électrique qui répond à la condition suivante :
 • SELV (Safety Extra Low Voltage): Product with reinforced insulation from the hazardous potential part (60V or higher)
 • SELV (Très Basse Tension de Sécurité) : Produit avec isolation renforcée de la partie à potentiel dangereux (60 V ou plus)

English	French
Power supply connector	Connecteur d'alimentation
POWER IN	ENTREE ALIMENTATION
POWER OUT	SORTIE ALIMENTATION
Module-and-sensor power supply	Alimentation de module-et-capteur
Load power supply and external power supply for output	Alimentation électrique de charge et alimentation électrique externe pour la sortie
Pin No.	Broche N°
Signal name	Nom de signal
UNIT	UNITE
LOAD	CHARGE
Pin assignment	Affectation des broches
Pin number	Broche N°
Signal name	Nom de signal
M12 connector, male (IN)	Connecteur M12 Mâle (IN)
M12 connector, female (OUT)	Connecteur M12 Femelle (OUT)
Safety switch	Interrupteur de sécurité
Safety relay	Relais de sécurité
Load	CHARGE
Safety relay	Relais de sécurité
I/O connector	Connecteurs E/S
Input connector	Connecteur d'entrée
Output connector	Connecteur de sortie

I/O connector



Pin number	Signal name	Pin number	Signal name
X0	(1) T1	X8	(1) T9
X1	(2) X1	X9	(2) X9
	(3) 24G (UNIT)	(3) 24G (UNIT)	
	(4) X0	(4) X8	
	(5) T0	(5) T8	
X2	(1) T3	XA	(1) TB
X3	(2) X3	XB	(2) XB
	(3) 24G (UNIT)	(3) 24G (UNIT)	
	(4) X2	(4) XA	
	(5) T2	(5) TA	
X4	(1) T5	Y0	(1) +24V (LOAD)
X5	(2) X5	(2) Y0-	
	(3) 24G (UNIT)	(3) 24G (LOAD)	
	(4) X4	(4) Y0+	
	(5) T4	(5) 24G (LOAD)	
X6	(1) T7	Y1	(1) +24V (LOAD)
X7	(2) X7	(2) Y1-	
	(3) 24G (UNIT)	(3) 24G (LOAD)	
	(4) X6	(4) Y1+	
	(5) T6	(5) 24G (LOAD)	

13. Precautions for Use of Safety Programmable Controller

Users must prove that their entire safety system complies with the safety standards and the Machinery Directive. The third-party certification organization will validate the safety of product for the entire safety system, including a safety programmable controller and safety components.

Target failure measure (PFDavg/PFH) calculation

To establish a safety system, calculate the target failure measure (PFDavg/PFH) for each safety application (safety function) based on the PFDavg/PFH values of the safety programmable controller and connected safety components. The target failure measure (PFDavg/PFH) is the reliability target value for each Safety Integrity Level (SIL) defined in IEC 61508 and can be calculated by the following formula.
 PFDavg/PFH = A + B + C + D.....Calculation formula of PFDavg/PFH

Variable	Definition
A ¹	PFDavg/PFH of the safety CPU module
B	PFDavg/PFH of the safety remote I/O module (1) When safety input device(s) and safety output device(s) are connected to the same safety remote I/O module: B = B1 (2) When safety input device(s) and safety output device(s) are connected to different safety remote I/O modules: B = B1 + B2
B1	PFDavg/PFH of the safety remote I/O module to which safety input device(s) is connected
B2	PFDavg/PFH of the safety remote I/O module to which safety output device(s) is connected
C ¹	PFDavg/PFH of safety input device(s)
D ¹	PFDavg/PFH of safety output device(s)

¹ For the values of PFDavg/PFH, refer to the manuals for the safety components used.
 The following table lists the PFDavg/PFH of safety remote I/O module.

Module	PFDavg	PFH(h) ⁻²
NZZGNS12A2-14DT	7.42 × 10 ⁻⁶	3.19 × 10 ⁻⁹

• The values are for when the module is used at the ambient temperature of 40°C.
 *2 Proof test interval is 5 years.

PL evaluation described in ISO 13849-1

For the PL evaluation described in ISO 13849-1, use the MTTFD (mean time to dangerous failure) and the DCavg (average diagnostic coverage) listed in the following table.

Module	MTTFD	DCavg
Safety remote I/O module	NZZGNS12A2-14DT 887	96.1

• The values are for when the module is used at the ambient temperature of 40°C.

14. EU DECLARATION OF CONFORMITY

MITSUBISHI ELECTRIC
 Changes for the Better

EU DECLARATION OF CONFORMITY

We, **Manufacturer** : MITSUBISHI ELECTRIC CORPORATION
 Address (Place of Declare) : TOKYO 100-8310, JAPAN
 Brand Name : **MITSUBISHI ELECTRIC**

declare under our sole responsibility that the product
 Description : Programmable Controller
 Type name to declare : Remote I/O modules
 # (0-9, A-F)
 Type name : NZZGNS12A2-14DT
 Serial No. : #####11#####

to which this declaration relates is in conformity with the following standard and legislative
 Legislation : Electromagnetic Compatibility Regulations 2016
 Supply of Machinery (Safety) Regulations 2008
 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
 Designated Standard : EN 61131-2:2007
 EN ISO 13849-1:2015
 EN IEC 63000:2018

This declaration is based on the conformity assessment of following Approved Body
 No. / Name and Address : 1 / TÜV RHEINLAND UK Ltd. Fara Gate (Third Floor), 1011 Stratford Road, Shirley, Solihull B90 4BN, United Kingdom
 Identification Number : 2571
 Issued certificate No. : 01205U5872 0022 / 01205U5884 0022

Authorized representative in Europe
 (The person authorized to compile the Technical file or relevant Technical documentation)
 Name and Address : Hisafumi Komoto
 Senior Manager, FA Remote I/O Module Development Section
 FA Systems Dept. 2
 MITSUBISHI ELECTRIC CORPORATION NAGOYA WORKS
 Issue Date (Date of Declaration) : 31 May, 2022

Signed for and on behalf of
 (Signature) *Hisafumi Komoto*

6.2 Wiring products

Produits pour câblage

Communication cables

Câbles de communication
 For recommended waterproof cables for communications, refer to the manuals shown in 1. Relevant manuals.
 Pour les câbles étanches recommandés pour les communications, reportez-vous aux manuels indiqués en 1. Relevant manuals (manuels correspondants).

Power cables

Câbles d'alimentation
 For recommended waterproof power cables, refer to the manuals shown in 1. Relevant manuals.
 Pour les câbles d'alimentation étanches recommandés, reportez-vous aux manuels indiqués en 1. Relevant manuals (manuels correspondants).

I/O cables

Câbles E/S
 For recommended waterproof I/O cables, refer to the manuals shown in 1. Relevant manuals.
 Pour les câbles d'E/S étanches recommandés, reportez-vous aux manuels indiqués en 1. Relevant manuals (manuels correspondants).

6.3 Transition wiring of the power supply

When installing multiple safety remote I/O modules, the power can be supplied to the modules through transition wiring. For transition wiring of the power supply, connect cables between the POWER OUT terminal of the module (power supplier) and the POWER IN terminal of another module (power supply destination).
 Ensure that the current does not exceed the following current capacity of the power supply connector
 • Module-and-sensor power supply: 8A per pin
 • Load power supply and external power supply for output part: 12A per pin
 There is current derating. For details, refer to Derating chart in this document.

6.4 Wiring of Ethernet cable

• When using only one of them in star topology, either P1 or P2 can be connected.
 • When using both connectors in line topology or ring topology, P1-P1, P2-P2, and P1-P2 connections are possible.

6.5 Setting switches

Setting IP address/station number setting switches

Set the fourth octet (decimal) of the IP address (in CC-Link IE TSN communication mode) or the station number (in CC-Link IE Field Network communication mode) using the IP address/station number setting switches x1 and x16 (hexadecimal).
 The setting range of the IP address is 1 to 254. If 0 is set, the module operates with the previously-set IP address. If 255 is set, an error occurs.
 The setting range of the station number is 1 to 120. If any value out of the range is set, an error occurs.
 The following figure shows the combinations of x1 and x16

	x1															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
B	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

7. EMC and Low Voltage Directives

For EMC and Low Voltage Directives, refer to the manuals shown in 1. Relevant manuals.

8. Information and services

For further information and services, please consult your local Mitsubishi representative.

Machinery Directive (2006/42/EC) Compliance

This product is suitable for establishing safety functions for general industrial machinery and complies with the Machinery Directive (2006/42/EC).
 Before using this product, please read this manual, the relevant manuals, and the safety standards carefully and pay full attention to safety to handle the product correctly.

9. Safety Standards

Use the product according to the following safety standards.

Region	Safety standards
International	IEC 61508 (SIL3), IEC 62061 (SIL3), ISO 13849-1 (Category 3 PL.e) IEC 61131-2 IEC 61000-6-2, IEC 61000-6-4 IEC 61784-3 IEC 60204-1
Europe	EN ISO 13849-1 (Category 3 PL.e) EN 61131-2 EN 61000-6-2, EN 61000-6-4
North America	UL 61010-1, UL 61010-2:201

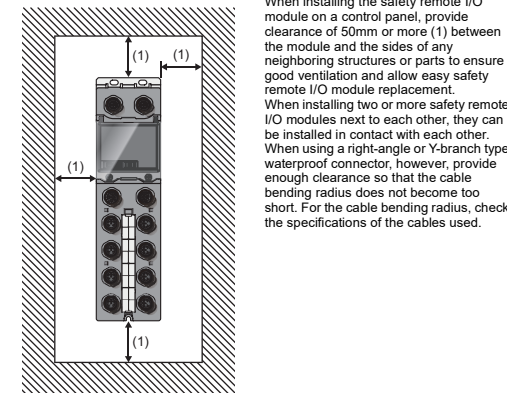
10. Safety Parameters

For details on the safety parameters of this product, refer to "SETTINGS" in the manuals shown in 1. Relevant manuals.

11. Installation

When installing this product to a control panel, fully consider its operability, maintainability, and environmental resistance. For details, refer to "General Specifications", "PROCEDURES BEFORE OPERATION", "INSTALLATION AND WIRING", and "MAINTENANCE AND INSPECTION" in the manuals shown in 1. Relevant manuals.

Installing modules



Installation orientations

The safety remote I/O module can be installed in six directions.
 For details, refer to "INSTALLATION AND WIRING" in the manuals shown in 1. Relevant manuals.

15. UK DECLARATION OF CONFORMITY

MITSUBISHI ELECTRIC
 Changes for the Better

UK DECLARATION OF CONFORMITY

We, **Manufacturer** : MITSUBISHI ELECTRIC CORPORATION
 Address (Place of Declare) : TOKYO 100-8310, JAPAN
 Brand Name : **MITSUBISHI ELECTRIC**

declare under our sole responsibility that the product
 Description : Programmable Controller
 Type name to declare : Remote I/O modules
 # (0-9, A-F)
 Type name : NZZGNS12A2-14DT
 Serial No. : #####11#####

to which this declaration relates is in conformity with the following standard and legislative
 Legislation : Electromagnetic Compatibility Regulations 2016
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 No. / Name and Address : 1 / TÜV RHEINLAND UK Ltd. Fara Gate (Third Floor), 1011 Stratford Road, Shirley, Solihull B90 4BN, United Kingdom
 Identification Number : 2571
 Issued certificate No. : 01205U5872 0022 / 01205U5884 0022

Issue Date (Date of Declaration) : 2 Nov. 2022

Signed for and on behalf of
 (Signature) *Hisafumi Komoto*

(Hisafumi Komoto)
 Senior Manager, FA Remote I/O Module Development Section
 FA Systems Dept. 2
 MITSUBISHI ELECTRIC CORPORATION NAGOYA WORKS

PL evaluation described in ISO 13849-1

For the PL evaluation described in ISO 13849-1, use the MTTFD (mean time to dangerous failure) and the DCavg (average diagnostic coverage) listed in the following table.

Module	MTTFD	DCavg
Safety remote I/O module	NZZGNS12A2-14DT 887	96.1

• The values are for when the module is used at the ambient temperature of 40°C.
 *2 Proof test interval is 5 years.

WARRANTY

Please confirm the following product warranty details before using this product.

- Limited Warranty and Product Support.**
 - Mitsubishi Electric Company ("MELCO") warrants that for a period of eighteen (18) months after date of delivery from the point of manufacture or one year from date of Customer's purchase, whichever is less, Mitsubishi MELSEC Safety programmable logic controllers (the "Products") will be free from defects in material and workmanship.
 - At MELCO's option, for those Products MELCO determines are not as warranted, MELCO shall either repair or replace them or issue a credit or return the purchase price paid for them.
 - For this warranty to apply:
 - Customer shall give MELCO (i) notice of a warranty claim to MELCO and the authorized dealer or distributor from whom the Products were purchased, (ii) the notice shall describe in reasonable details the warranty problem, (iii) the notice shall be provided promptly and in no event later than thirty (30) days after the Customer knows or has reason to believe that Products are not as warranted, and (iv) in any event, the notice must be given within the warranty period;
 - Customer shall cooperate with MELCO and MELCO's representatives in MELCO's investigation of the warranty claim, including preserving evidence of the claim and its causes, meaningfully responding to MELCO's questions and investigation of the problem, grant MELCO access to witnesses, personnel, documents, physical evidence and records concerning the warranty problem, and allow MELCO to examine and test the Products in question onsite or at the premises where they are installed or used; and
 - If MELCO requests, Customer shall remove Products it claims are defective and ship them to MELCO or MELCO's authorized representative for examination and, if found defective, for repair or replacement. The costs of removal, shipment to and from MELCO's designated examination point, and reinstallation of repaired or replaced Products shall be at Customer's expense.
 - If Customer requests and MELCO agrees to effect repairs onsite at any domestic or overseas location, the Customer will pay for the costs of sending repair personnel and shipping parts. MELCO is not responsible for any re-commissioning, maintenance, or testing on-site that involves repairs or replacing of the Products.

Installation precautions

- Install the safety remote I/O module on the flat surface. When the installation surface is uneven, excessive force is applied to the printed-circuit board and may cause a defect.
- Do not install the safety remote I/O module to the place where:
 - Ambient temperature is outside the range of 0 to 55°C;
 - IP67 is not satisfied;
 - Condensation occurs due to rapid temperature change;
 - Corrosive gas or combustible gas is present;
 - Filled with conductive powder such as dust and iron powder, oil mist, salinity, or organic solvent;
 - The safety remote I/O module is exposed to direct sunlight;
 - A strong electric field or strong magnetic field is generated (for details, refer to "EMC and Low Voltage Directives" in the manuals shown in 1. Relevant manuals); and
 - The safety remote I/O module is subject to vibration and shock (for details, refer to "General Specifications" in the manuals shown in 1. Relevant manuals).
- $\frac{1}{2}$ represents a function grounding terminal.

Fixing the safety remote I/O module

When fixing the safety remote I/O module, tighten all of three screws.
 If any of the screws is loose, the module will be greatly affected by vibration, causing failure of the module.
 When installing the module, tighten screws within the following torque range.

Screw type	Tightening torque range
Screw for an FG metal fitting/mounting bracket (M4 screw)	0.83 to 1.11N.m

12. Module Status after Power-on and LED Indication

No.	Name	Application
(1)	PW LED	Indicates the status of the power supply. On: Power supply ON Off: Power supply OFF
(2)	RUN LED	Indicates the operating status. On: Operating normally, in initial processing Flashing: Operating in unit test mode Off: A major error has occurred.
(3)	SAFETY LED	Indicates the safety communication status of the safety remote I/O module. On: Safety communication established, in initial processing Flashing: Checking the position of the setting target module Off: Safety communication not established
(4)	ERR. LED	Indicates the error status of the safety remote I/O module. On: A moderate error or major error has occurred, in initial processing Flashing: A minor error has occurred.*2 Off: Operating normally
(5)	P1 LINK LED	Indicates the link status for P1. On: Link-up Off: Link-down
(6)	P2 LINK LED	Indicates the link status for P2. On: Link-up Off: Link-down
(7)	DATA LINK LED	Indicates the data link status of the safety remote I/O module. On: Cyclic transmission being performed, in initial processing Flashing: Cyclic transmission stopped*1 Off: Disconnected
(8)	X0 LED to XB LED Y0+ LED to Y1- LED	When error points are not indicated: Indicates the ON/OFF status of the inputs. On: Input ON*3 Off: Input OFF When error points are indicated: Flashes to indicate the error points. On: Input ON*3 Flashing: An error has occurred.*4 Off: Input OFF
(9)	I/O PW LED	Indicates the status of the power supplied from the external power supply. On: External power supply ON Off: External power supply OFF

*1 When cyclic transmission is stopped only for the master station, the safety remote I/O module maintains the cyclic transmission. Thus, the DATA LINK LED remains on.
 *2 After a minor error has been eliminated, the LED flashes for 5 seconds or longer and turns off.
 *3 In the safety drive mode, the LEDs indicate the status of actual input signals that are externally input, regardless of the setting of the input response time setting function.
 *4 Flashing indicates that a minor error has occurred in the safety remote I/O module.

3. Limits on Damages.

- MELCO'S MAXIMUM CUMULATIVE LIABILITY BASED ON ANY CLAIMS FOR BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT TORT LIABILITY OR OTHER THEORIES OF RECOVERY REGARDING THE SALE, REPAIR, REPLACEMENT, DELIVERY, PERFORMANCE, CONDITION, SUITABILITY, COMPLIANCE, OR OTHER ASPECTS OF THE PRODUCTS OR THEIR SALE, INSTALLATION OR USE SHALL BE LIMITED TO THE PRICE PAID FOR PRODUCTS NOT AS WARRANTED.
- Although MELCO has obtained the certification for Product's compliance to the international safety standards IEC61508 and EN954-1/ISO13849-1 from TÜV Rheinland, this fact does not guarantee that Product will be free from any malfunction or failure. The user of this Product shall comply with any and all applicable safety standard, regulation or law and take appropriate safety measures for the system in which the Product is installed or used and shall take the second or third safety measures other than the Product. MELCO is not liable for damages that could have been prevented by compliance with any applicable safety standard, regulation or law.
- MELCO prohibits the use of Products with or in any application involving power plants, trains, railway systems, airplanes, airline operations, other transportation systems, amusement equipments, hospitals, medical care, dialysis and life support facilities or equipment, incineration and fuel devices, handling of nuclear or hazardous materials or chemicals, mining and drilling, and other applications where the level of risk to human life, health or property are elevated.
- MELCO SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL, INDIRECT OR PUNITIVE DAMAGES, FOR LOSS OF PROFITS, SALES, OR REVENUE, FOR INCREASED LABOR OR OVERHEAD COSTS, FOR DOWNTIME OR LOSS OF PRODUCTION, FOR COST OVERRUNS, OR FOR ENVIRONMENTAL OR POLLUTION DAMAGES OR CLEAN-UP COSTS, WHETHER THE LOSS IS BASED ON CLAIMS FOR BREACH OF CONTRACT OR WARRANTY, VIOLATION OF STATUTE, NEGLIGENCE OR OTHER TORT, STRICT LIABILITY OR OTHERWISE.
- In the event that any damages which are asserted against MELCO arising out of or relating to the Products or defects in them, consist of personal injury, wrongful death and/or physical property damages as well as damages of a pecuniary nature, the disclaimers and limitations contained in these