

FnIO, decentralised I/O System

from

CREVIS

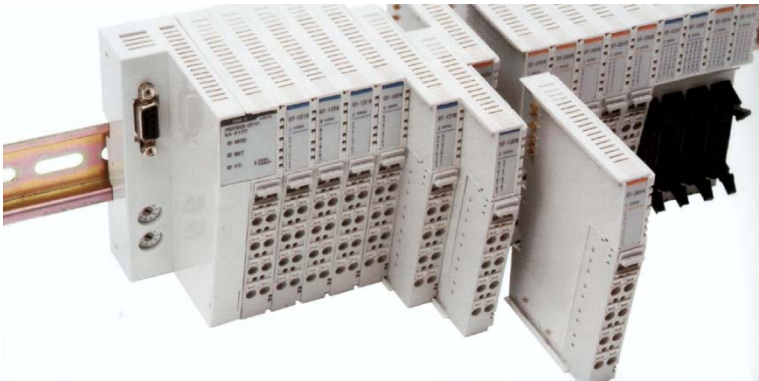


FnIO - two series



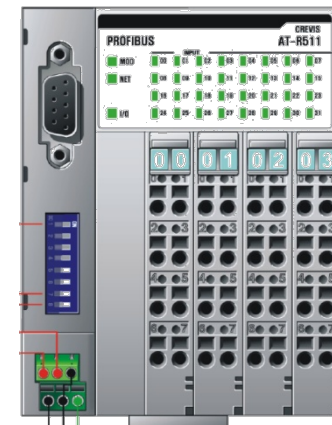
S-Series

"Sliced" solution



A-Series

Compact solution



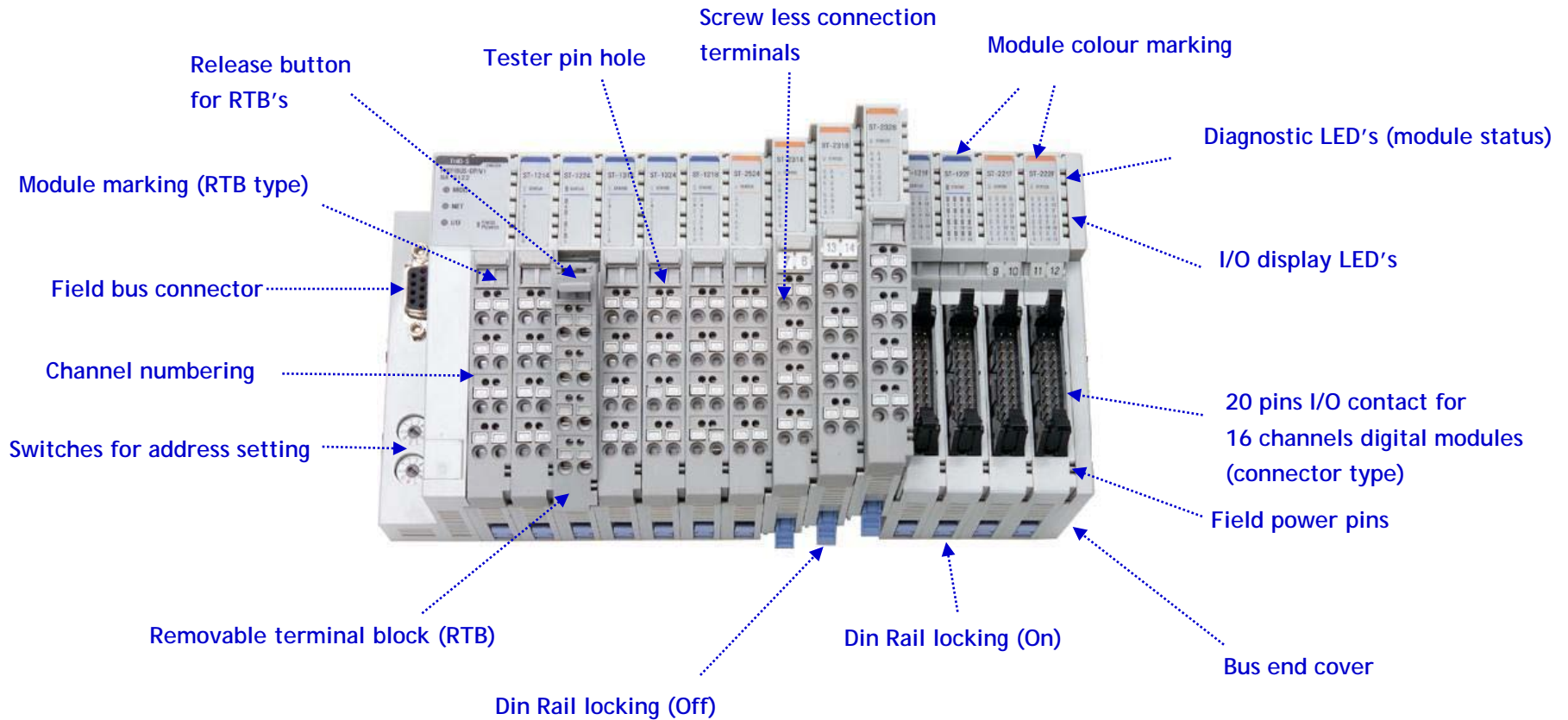
Flexible solutions with FnIO S-series



- Wide range of node modules, 6 options
- Wide range of I/O modules
 - 4, 8 or 16 digital I/O's
 - 2, 4 or 8 analogue inputs
 - 1, 2 or 4 analogue outputs
- Special functions modules
 - High Speed counter modules, 1,5 MHz, 5 VDC/ 24 VDC
 - Communication modules, RS232, RS422, RS485
- Power feeding modules
- Potential distributor modules
- Accessories

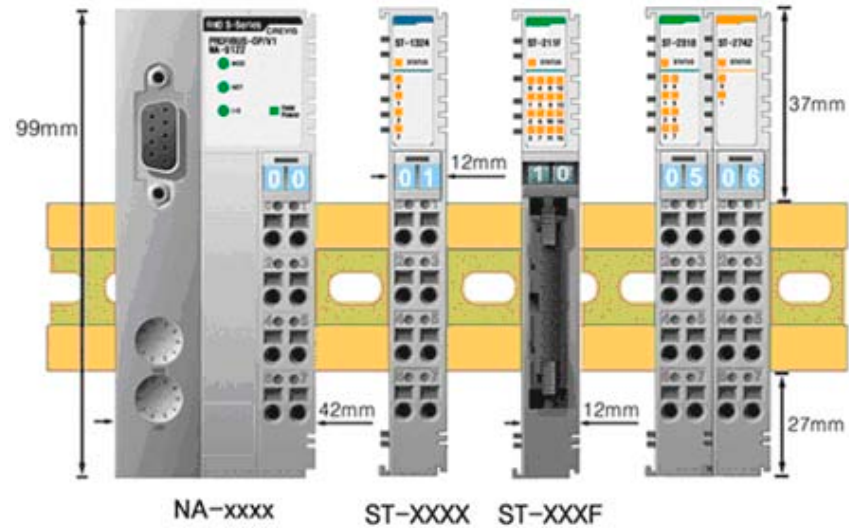


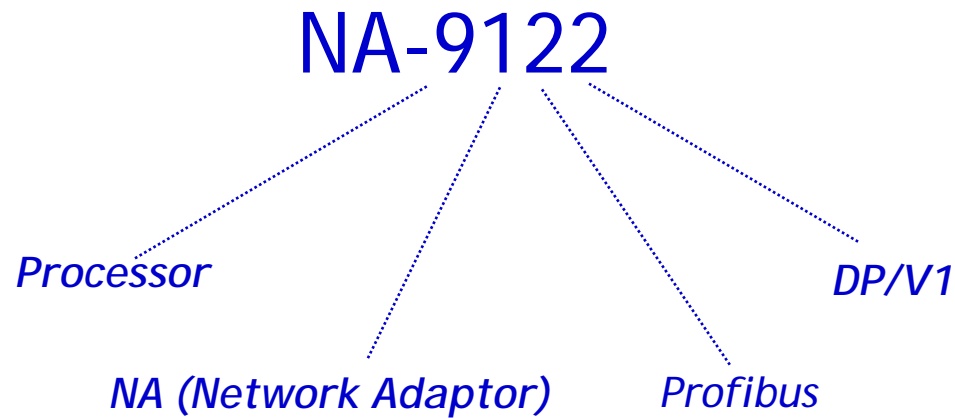
Parts in a FnIO S-series node



Dimensions FnIO S-series

Height = 99 mm
Depth = 70 mm
Width NA = 42 mm
Width ST = 12 mm



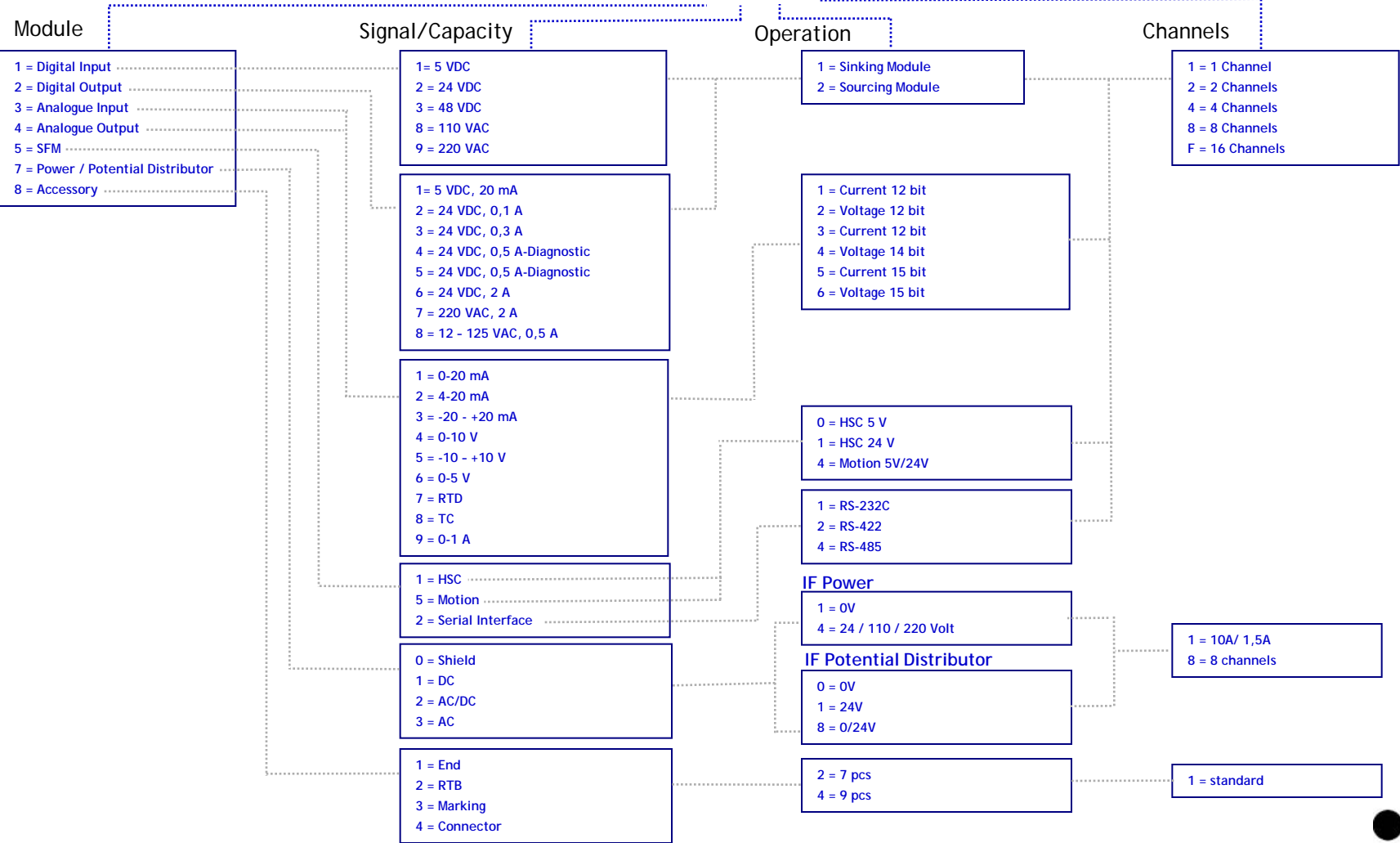


NA = Network Adaptors

ST = Sliced Type I/O modules

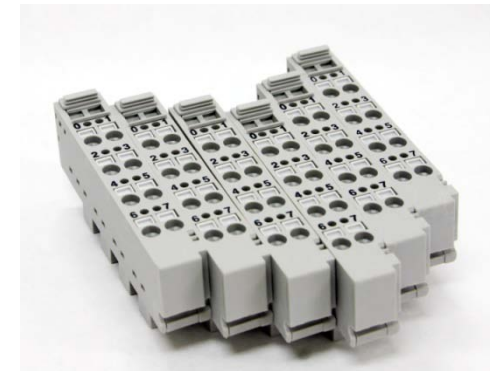
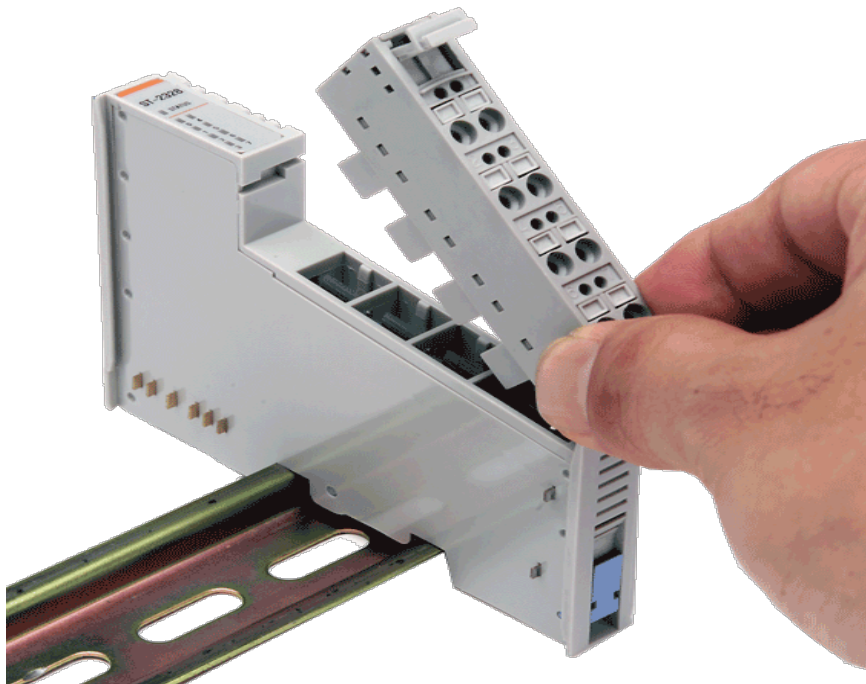


ST-xxxx



Removable terminal blocks

- One-Touch Take on/off type
- One-Touch cable inserting

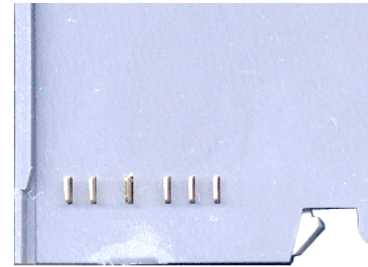


Can be ordered separately



Pin Types

- Sliding connection system, ensure a safe connection between modules in the node



Colour marked I/O modules

GEVA



Digital inputs AC



Digital inputs DC



Digital outputs DC



Relay and Triac outputs



Analogue inputs



Analogue outputs



Special Function modules



Power feeding and Potential Distributor modules



- Photo coupler isolation between I/O's and FnIO bus
- Digital outputs short circuit protected
- 1,5 ms. filter time and 0,3 ms. switching delay on digital output modules
- 1 ms. conversion time per analogue output channel
- Some models with diagnostic functions



Terminology Sink / Source

Important !!!

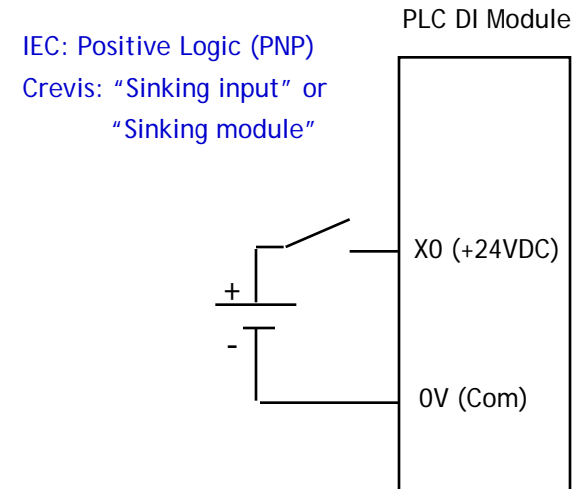
It's important to know that Crevis use another terminology than Mitsubishi Electric / Beijer Electronics (IEC) regarding Sink / Source for digital DC input modules. Regarding DC output modules, we're using the same terminology.

INPUT MODULES:

Crevis: Sink Type Module -> IEC: Positive Logic (PNP)
Source Type Module -> Negative Logic (NPN)

OUTPUT MODULES:

Crevis: Sink Type Module -> IEC: Negative Logic (NPN)
Source Type Module -> Positive Logic (PNP)



*In BE's price lists and sales brochures, only modules with Positive Logic are available.
Modules with Negative Logic can be ordered on request (not stock items)*

Labeling of discrete I/O modules

FnIO-S FieldBus Input/Output System			 IND. CONT. EQ. 4KA9
4 Channels Digital Input 24VDC, Sink Type(Positive Logic) Removable Terminal Block 2 or 3-wire System			
Made in Korea			CREVIS Network I/O Technology www.crevis.co.kr
REV.	F/W REV.	H/W REV.	
1.03	1.011	1.03	
CATALOG NO. ST-1214		 1080540001	

FnIO-S FieldBus Input/Output System			 IND. CONT. EQ. 4KA9
4 Channels Digital Input 24VDC, Source Type(Negative Logic) Removable Terminal Block 2 or 3-wire System			
Made in Korea			CREVIS Network I/O Technology www.crevis.co.kr
REV.	F/W REV.	H/W REV.	
1.03	1.011	1.03	
CATALOG NO. ST-1224		 1090560001	

FnIO-S FieldBus Input/Output System			 IND. CONT. EQ. 4KA9
4 Channels Digital Output 24VDC, Sink Type(Negative Logic) Direct Common Removable Terminal Block			
Made in Korea			CREVIS Network I/O Technology www.crevis.co.kr
REV.	F/W REV.	H/W REV.	
1.02	1.011	1.02	
CATALOG NO. ST-2314		 1200560001	

FnIO-S FieldBus Input/Output System			 IND. CONT. EQ. 4KA9
4 Channels Digital Output 24VDC, Source Type(Positive Logic) Direct Common Removable Terminal Block			
Made in Korea			CREVIS Network I/O Technology www.crevis.co.kr
REV.	F/W REV.	H/W REV.	
1.02	1.011	1.02	
CATALOG NO. ST-2324		 1210560001	



Network Adaptors (NA)

*All node module types should be powered with 24 V DC,
No request for additional power feeding module**



Modbus-TCP

Modbus-RS232

Modbus-RS485

** In case with bigger nodes, a calculation regarding needs for additional power feeding module must be done.
Can be calculated with the software "IO Guide"*



Network Adaptors



Modbus-TCP

Modbus-RS232

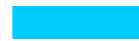
Modbus-RS485

Bus type	Node module	Stations	Protocol	Expansion (max)	Max data in / out	Bus connection	Max baud-rate	Max bus length	Dimensions (b x h x l)
Profibus-DP	NA-9122	100	V1	32 I/O modules	1024 digital I/O / 63 analogue I/O (128 bytes inn/ out)	9 Pins D-Sub	12Mbps	1200 meters	42x99x70 mm
CC-Link	NA-9131	64	Version 1	32 I/O modules	112 digital I/O (Rx/Ry, 4 stations) / 16 analogue I/O (RWr / RWw, 4 stations)	5 Pins connector	10Mbps	1200 meters	42x99x70 mm
CANOpen	NA-9161	99		32 I/O modules	512 digital I/O / 126 analogue I/O (64 bytes in / out)	5 Pins connector	1Mbps	1200 meters	42x99x70 mm
Modbus RS232	NA-9171	1	RTU/ASCII	32 I/O modules	2016 digital I/O / 126 analogue I/O (252 bytes in / out)	9 Pins D-Sub	115,2kbps	15 meters	42x99x70 mm
Modbus RS485	NA-9173	64	RTU/ASCII	32 I/O modules	2016 digital I/O / 126 analogue I/O (252 bytes in / out)	5 Pin connector	115,2kbps	1200 meters	42x99x70 mm
Modbus TCP/IP	NA-9189	100	Modbus-TCP	32 I/O modules	2016 digital I/O / 126 analogue I/O (252 bytes in / out)	RJ 45	10/100Mbps	100 m from HUB / Switch	42x99x70 mm



Digital In- and Output modules

GEVA



Digital inputs AC



Digital inputs DC



Digital outputs DC



Relay and Triac outputs



Digital inputs	4 channels	8 channels	16 channels
5 VDC	ST-1114		
12/24 VDC	ST-1214	ST-1218	ST-121F
48 VDC	ST-1314		
110 VAC	ST-1804		
220 VAC	ST-1904		

Digital outputs	2 channels	4 channels	8 channels	16 channels
5 VDC		ST-2124		
12/24 VDC, 0,5A / 2A		ST-2324 / ST-2624	ST-2328	ST-222F (0,3A)
12/24 VDC, 0,5A / 2A diagnostic		ST-2424 / ST-2524		
Relay	ST-2742	ST-2744	ST-2748	
Triac 12 - 125 VAC, 0,5A	ST-2852			



Analogue In- and Output modules



Analogue inputs



Analogue outputs



Analogue in/out	0 - 20 mA	4 - 20 mA	0 - 1 A	0 - 5 VDC	0 - 10 VDC	-10 - +10 VDC
4 inputs, 12 bits	ST-3114	ST-3214		ST-3624	ST-3424	ST-3524
4 inputs, 14 bits	ST-3134	ST-3234		ST-3644	ST-3444	ST-3544
8 inputs, 12 bits	ST-3118	ST-3218			ST-3428	
1 output, 12 bits			ST-4911			
2 outputs, 12 bits	ST-4112	ST-4212		ST-4622	ST-4422	ST-4522
4 outputs, 12 bits	ST-4114	ST-4214			ST-4424	

Temperature	2 channels
RTD ((J)PT50/100/200/500/1000, Ni100/120/200/500/1000, Cu10 and 10/20/100 mΩ/bit)	ST-3702
TC (K, J, T, B, R, S, E, N, L, C, D and 1/2/10 μV per bit)	ST-3802



Special function modules



Special Function modules

Special function modules	1 channel	2 channels
HSC 5 VDC, 1,5 MHz	ST-5101	
HSC 24 VDC, 1,5 MHz	ST-5111	
RS232	ST-5211	ST-5212
RS422	ST-5221	
RS485	ST-5231	ST-5232



Power feeding modules



Power Feeding modules

Power feeding modules	Module
For distribution / separation of power to I/O and system bus, 24 VDC / 10 A, 5 VDC / 1 A.	ST 7111
For distribution / separation of power to I/O, max 10 A (AC/DC)	ST-7241



Connection of 0V, +24V, shield



Potential distributor modules

Connection signal	4 / 4 connections	8 connections
0 V		ST-7108
+24 VDC		ST-7118
0 V / +24 VDC	ST-7188	
Shield		ST-7008



Compact solutions with FnIO A-series

GEVA

- Compact nodes with up to 32 IO's embedded
- Profibus DP and CC-Link
- Cost efficient
- Possible I/O solutions:
 - 32 Digital Inputs
 - 32 Digital Outputs
 - 16 Digital Inputs + 16 Digital Outputs
 - 16 Digital Inputs + 8 Relay outputs
 - 16 Relay Outputs
- Expansion with up to 4 modules from FnIO S-series possible



PROFI[®]
PROCESS FIELD BUS
BUS

CC-Link



FnIO A-series, Profibus DP



Profibus	In / Outputs	Stations	Protocol	Expansion (max)	Max data inn / out	Bus connection	Max baud-rate	Max bus length	Dimentions
AT-R511	32 inputs 24 VDC								
AT-R522	32 outputs 24 VDC / 0,5 A								
AT-R533	16 inn- / 16 outputs	100	V1	4 I/O modules	128 bytes in / out	9 Pin D-Sub	12Mbps	1200 meters	81x99x70
AT-R525	16 relay outputs 250 VAC / 2 A								
AT-R536	16 inputs VDC / 8 relay outputs 250 VAC / 2 A								



FnIO A-series, CC-Link



CC-Link



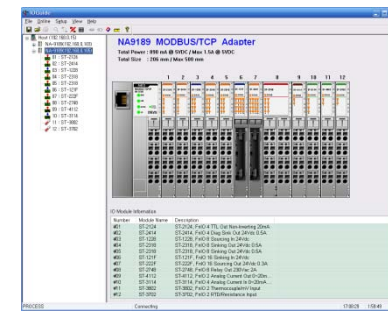
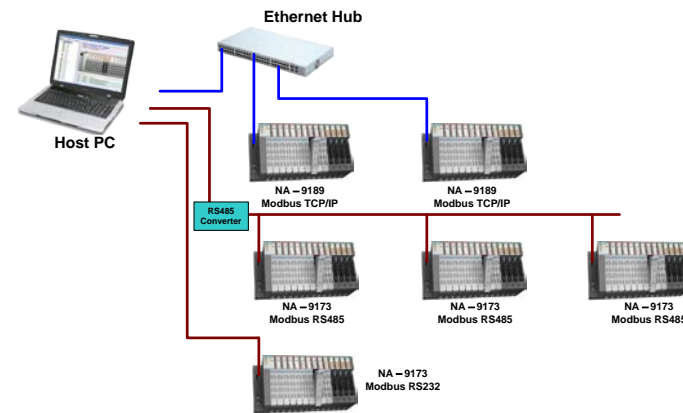
CC-Link	In / Outputs	Stations	Protocol	Expansions (max)	Max data in / out	Bus connection	Max baud-rate	Max bus length	Dimensions
AT-R311	32 inputs 24 VDC								
AT-R322	32 outputs 24 VDC / 0,5 A								
AT-R333	16 in- / 16 outputs	64	Version 1	4 I/O modules	RX/RY: 112 points (4 stations) RWr/RWw: 16 points (4 stations)	5 pins connector	10Mbps	1200 meters	81x99x70
AT-R325	16 relay outputs 250 VAC / 2 A								
AT-R336	16 inputs VDC / 8 relay outputs 250 VAC / 2 A								



IO Guide - Configuration tool

- Configuration of network, up/down loading to/from nodes
- Graphic image, module information.
- Parameterize nodes
- Power consumption calculation (5 VDC to internal FnIO bus)
- I/O information, values in-/out, mapping, force outputs
- Dimensions (w x h x d)
- Export to Excel
- Documentation with printout of configuration, images, material lists and so on.

Modbus, Serial / TCP



GX Configurator DP is the tool for configuration of Crevis Profibus nodes to MELSEC Profibus DP Master modules