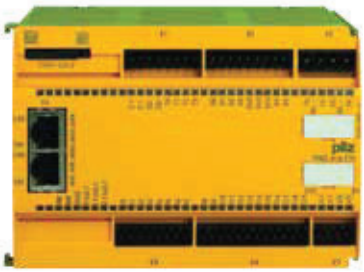
Pnoz Multi Programmable Controller

	PNOZ m1p/m0p		PNOZ mm0p	
Type			 NEW	
Range of use	Base unit – complies with Performance Level PL e of EN ISO 13849-1 and SIL 3 of IEC 62061		From 3-6 safety functions and for standard control functions. Complies with Pl e of EN ISO 13849-1 and SIL 3 of IEC 62061	
Application range	E-STOP, two-hand buttons, safety gate, light curtain, scanner, enable switch, PSEN safety gate switch, operating mode selector switch.		E-STOP, two-hand buttons, safety gate, light curtain, scanner, enable switch, PSEN safety gate switch, operating mode selector switch.	
Inputs/Outputs	20 freely configurable inputs 4 test pulse outputs 1 auxiliary output Outputs using s/c technology: - Category 4: 2 safety outputs - Category 3: 4 safety outputs Relay outputs: - Category 4: 1 safety output - Category 2: 2 safety outputs		20 freely configurable inputs 4 test pulse outputs Outputs using s/c technology: -Category 4: 4 semiconductor outputs	
Supply voltage(U_B)	24 VDC		24 VDC	
Utilisation Category	Outputs using s/c technology 24 VDC, 2A max or 48W Relay outputs: DC 24V, 6 A		Outputs using s/c technology 24 VDC, 2A max or 48W	
Dimensions (HxWxD)	94x135x121		101x45x120	
Features	Configurable using PNOZ multi Configurator via chip card or RS 232 interface Exchangeable program memory Diagnostic interface Fieldbus modules can be connected and max. 8 expansion modules can be connected on PNOZ m1p Fieldbus modules can be connected but no expansion modules can be connected on PNOZ m0p		Configurable using PNOZ multi Configurator via USB Exchangeable program memory Diagnostic interface	
Order Numbers (Excl.terminals)	PNOZ m1p-(serial) PNOZ m0p PNOZ m1p-ETH	773 100 773 110 773 103	PNOZ mm0p Pnoz mm0.1p Pnoz mm0.2p	772 000 772 001 772 002
Plug in Screw Terminals	1 set	793 100	1 set	750 008
	—	—	Mini USB Cable	3 m ..... 312 992 5 m 312 993

PNOZ mi1p		PNOZ mo4p		PNOZ ms2p		PNOZ MULTI TOOLKIT	
							
3-6 safety functions Safe input module		Safe relay output module		Safe speed and standstill monitoring module		The Toolkit contains the accessories you need to start working with PNOZ multi: • Documentation folder with the PNOZ • Multi Configurator • Chip card reader to write and save the configuration onto a chip card • Chip card set consisting of 10 chip cards, including a chip card adapter for rewriting cips removed from the chip card. • Configuration cable for reading diagnostic data. Accessories: • Chip card reader... 779230 • Chip card set..... 779200 • Serial Prog cable.. 310300 • Documentation folder • with Pnoz multi configurator • on CD ROM.....773000 • PNOZ mc8p Ethernet 773730 • PNOZ mc9p Profinet 773731 • PNOZ mc4p Devicenet 773711	
E-STOP, two-hand buttons, safety gate, light curtain, scanner, enable switch, PSEN safety gate switch, operating mode selector switch		Volt-free switching of actuators		In accordance with EN 954-1, Cat. 3: For speed and standstill monitoring via incremental encoders or proximity detectors.			
8 safe inputs		Relay outputs: - Category 4: 2 safety outputs - Category 2: 4 safety outputs		—			
24 VDC		24 VDC		24 VDC			
DC 24 VDC/6 A		24 VDC/6 A					
94x22.5x121mm		94x 2.5x121 mm		94x45x121 mm			
Max. 8 input modules can be connected to the base unit. Connected to base unit via a link on the back on the unit.		Max. 6 relay output modules can be connected to the base unit. Connected to base unit via a link on the back of the unit		Up to 8 limit values can be configured using the PNOZmulti Configurator Proximity detectors are connected directly to the terminals on the PNOZ ms2p Incremental encorders are connected via a connection cable. PNOZ msi1p, 25/25 Si/Ha 2.5 m …… 773 840 Pnoz mis10P Adaptor cable 2.5 m...773854 Additional versions on request			
PNOZ mi1p	773 400	PNOZ mo4p	773 536	PNOZ ms2p Excl terminals Screw terminals	773 810 793 800	PNOZ Multi toolkit	779 000
1 set	793 400	1 set	793 536	Pnoz ms1P Excl terminals	773 800	Single user license	773 010B
—	—	—	—	Screw terminals	793 800	—	

Pnoz Multi 2 Programmable Controller

NEW

	PNOZ m B0		PNOZ m EF 16 DI	
Type				
Range of use	Base unit – complies with Performance Level PLe of EN ISO 13849-1 and SIL 3 of IEC 62061		With base unit	
Application range	E-STOP, two-hand buttons, safety gate, light curtain, scanner, enable switch, PSEN safety gate switch, operating mode selector switch, muting, pressure sensitive mats, sensors.		E-STOP, two-hand buttons, safety gate, light curtain, scanner, enable switch, PSEN safety gate switch, operating mode selector switch, muting, pressure sensitive mats, sensors.	
Inputs/Outputs	20 safe inputs, up to 8 of which can be configured as auxilliary outputs. 12 digital inputs 8 configurable I/O 4 safe semiconductor outputs , depending on the application up to PL e, SIL CL 3 4 test pulse outputs, up to 4 of which can be configured as standard outputs		16 safe inputs	
Supply voltage(U_B)	24 VDC		24 VDC	
Utilisation Category	Outputs using s/c technology 24 VDC, 2A max or 48W Power consumption 0.8 W		–	
Dimensions (HxWxD)	45x120x101.4		22.5x101.4x120	
Features	Configurable using PNOZ multi Configurator via chip card or USB interface Exchangeable program memory with illuminated display for error messages State of the supply voltage, state of the inputs and outputs, status and device information, customised texts can be displayed. Maximum 1 communication and 1 fieldbus module can be connected to the left of the base unit. Rotary knob for manual control.		Max. 6 expansion modules can be connected to the right of the base unit.	
Order Numbers (Excl.terminals)	PNOZ m B0 Mini USB Cable (5m) Chip Card 8 kByte Chip Card 32 kByte	772 100 312 993 779 201 779 211	PNOZ m EF 16DI	772 140
Plug in Screw Terminals	1 set	750 008	1 set	750 004
PNOZ Multi single user licence	773010B	—	—	—

NEW

PNOZ m EF 8DI4DO		PNOZ m EF 4DI4DOR		PNOZ m ES ETH PNOZ m ES PROFIBUS		ACCESSORIES	
							
With base unit		With base unit		Slave communication modules		Accessories: • Mini USB Cable • 3 Metre.....312992 • 5 Metre.....312993 • Chip card 8kByte • 1 piece.....779201 • Chip card 32kByte • 1 piece.....779211	
E-STOP, two-hand buttons, safety gate, light curtain, scanner, enable switch, PSEN safety gate switch, operating mode selector switch, muting, pressure sensitive mats, sensors.		E-STOP, two-hand buttons, safety gate, light curtain, scanner, enable switch, PSEN safety gate switch, operating mode selector switch, muting, pressure sensitive mats, sensors.		Ethernet (2 ports) RS 232 Profibus - DP CANopen EtherCAT			
8 safe inputs 4 safe semiconductor outputs, up to PL e, SIL CL 3		4 safe inputs 4 safety relay outputs up to PL e, SIL CL 3		—			
24 VDC		24 VDC		24 VDC			
DC 24 VDC/6 A		24 VDC/6 A					
22.5x120x101.4		22.5x120x101.4		22.5x101.4x111-ETH			
Max. 6 expansion modules can be connected to the right of the base unit		Max. 6 expansion modules can be connected to the right of the base unit		Maximum 2 communication and 4 fieldbus module can be connected to the left of the base unit.			
PNOZ 8DI4DO	772 142	PNOZ 4DI4DOR	772 143	PNOZ m ES ETH PNOZ m ES RS232 PROFIBUS CANopen EtherCAT	772 130 772 131 772 132 772 134 772 136		
1 set	750 004	1 set	750 004	ETHERNET RS232 PROFIBUS CANOPEN EtherCAt	– 793 538 793 542 793 542 793 542	Single user license	773 010B
—	—	—	—	—	—	—	

7

Samos Pro Programmable Controller

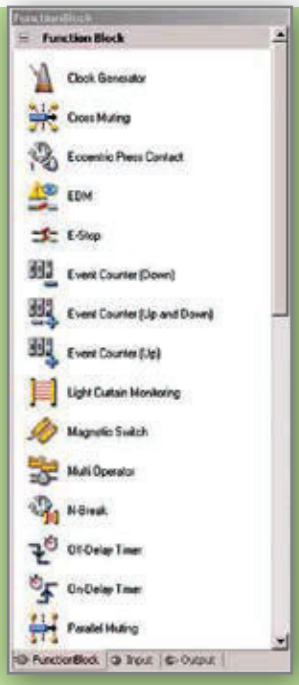
***samos*® PRO fulfills Performance Level PLe/Cat 4 (EN-ISO 13849-1) & SIL 3 (EN62061).**

***samos*®PLAN –**
the programming tool for
***samos*®PRO**

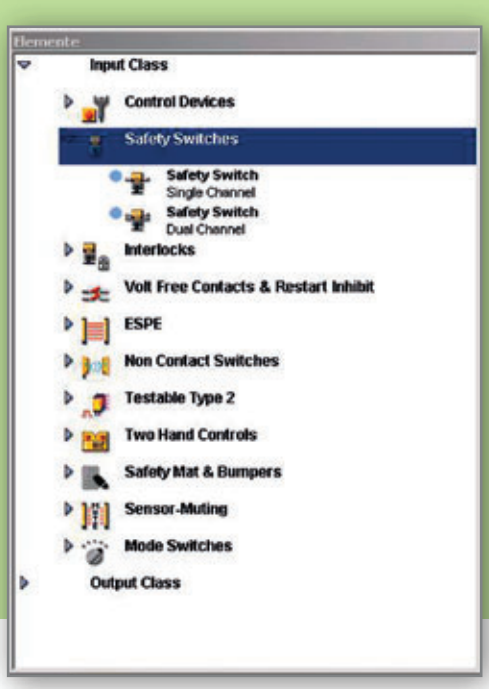
You don‘t need to master a programming language to be able to solve technical safety tasks with samos®plan.The graphic programming user interface is intuitive and supports the user with its many automated functions.

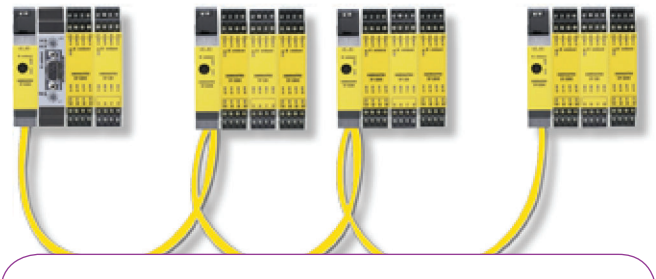
samos®plan offers the user many safe, practice-oriented function blocks.
For example:

- **Emergency stop functions**
- **Protective door and locking functions**
- **Light barrier and light curtain functions**
- **Muting functions**
- **Two-hand and press functions**
- **Logic functions**
- **Timer and counter functions**
- **Operating mode switch**
- **Application-specific function blocks**



Clearly organized and functional – the practice-oriented function blocks.

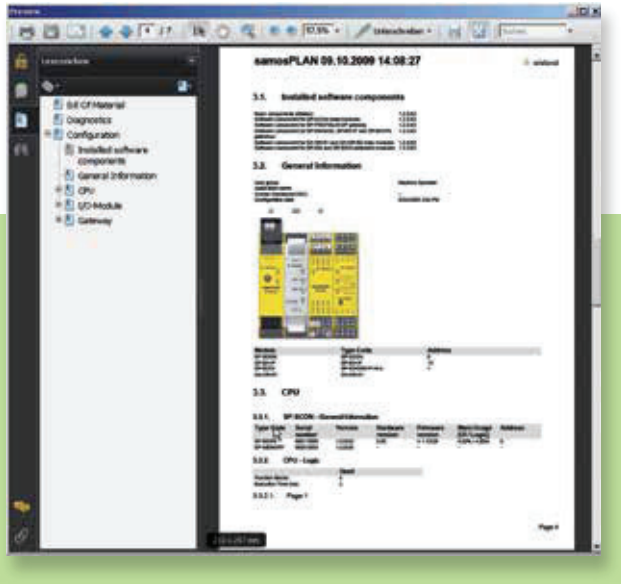




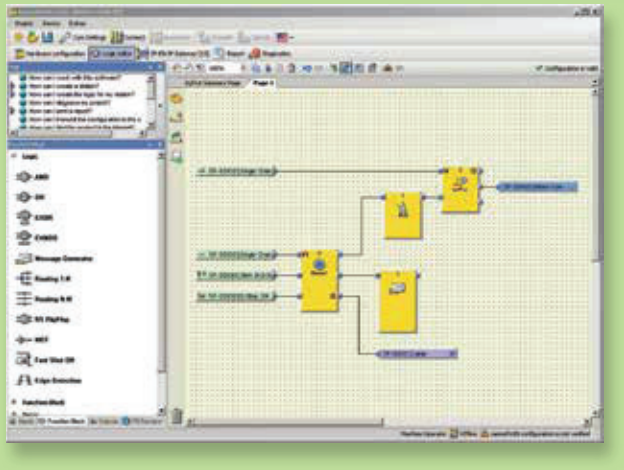
- 100 metres of network
- 384 safe inputs
- 192 safe outputs

Up to 4 samos ® PRO systems can be connected with ***samos*** ® NET System

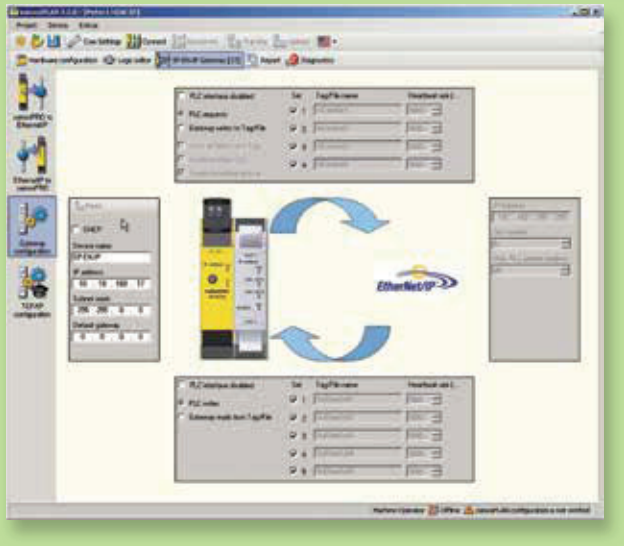
Documentation



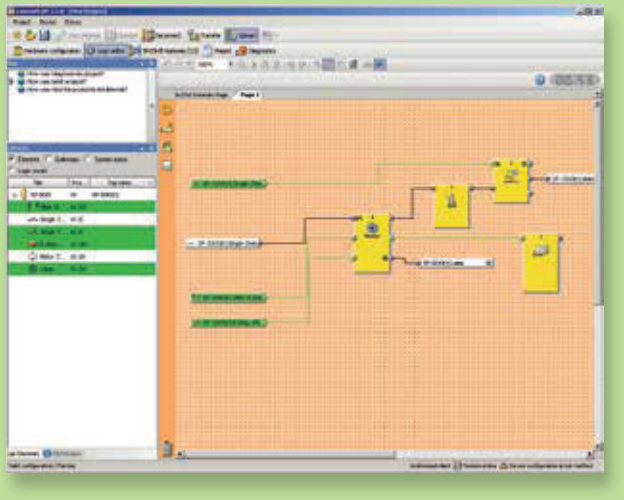
Logic editor



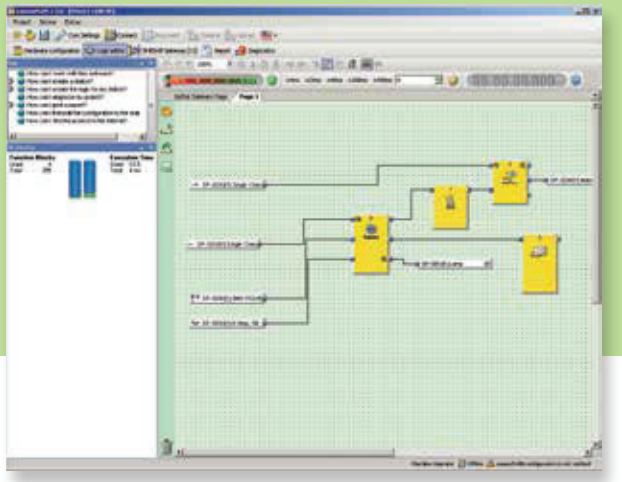
Network integration



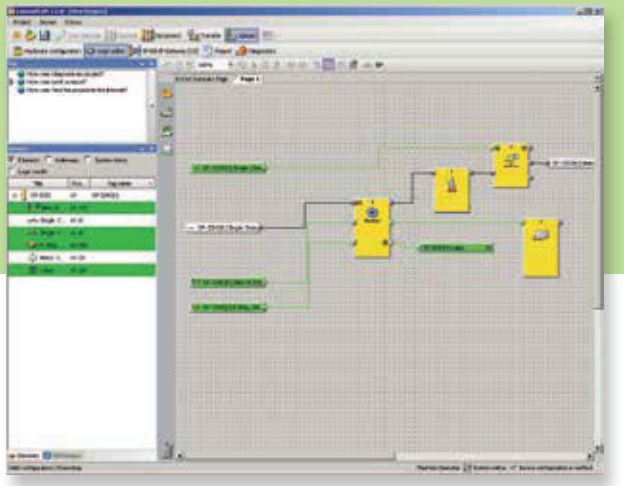
Force mode



Simulation



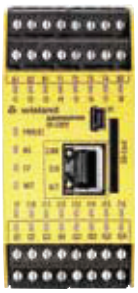
Online diagnosis



You can download **Samos plan 1.3** from; www.treotham.com.au/catalogue/product/**419**/snapshot

You can download **Samos plan 51** from; www.treotham.com.au/catalogue/product/**526**/samosprocompact

Samos Pro Programmable Controller

	* SP-SCON-P1-K	* SP-COMPACT
	 	
Range of use	From 4 Safety functions	From 4 Safety functions
Application range	In accordance with AS4024-2006, Category 2, 3 or 4: Estop, two-hand buttons, safety gate, light curtain, scanner, enable switch, operating mode selector switch	In accordance with AS4024-2006, Category2,3 or 4: Estop, two-hand buttons, safety gate, light curtain, scanner, enable switch, operating mode selector switch
Inputs/Outputs	CPU	4 configurable I/O 20 Inputs (each output is Ple Cat 4) 4 outputs
Supply voltage(U_B)	24 VDC	24 VDC
Utilisation Category	—	Inputs 15VDC -30 VDC at 3 mA.
Dimension (H x W x D)mm	96.5 x 22.5 x 114	96 x 45 x 115
Features	Configurable using SAMOS Plan Configura via RS 232 interface Exchangeable program memory Diagnostic Interface 2 x Fieldbus modules can be connected and maximum of 12 expansion modules can be connected.	2 x Fieldbus modules and max of 12 modules can be connected to the CPU. Connected to CPU via safetybus on the side. USB Interface Pluggable screw terminals

Order Number	Part Number	Order Number	Part Number	Order Number
	SP-SCON-P1-K	R1.190.0010.0	SP-COP1-A (20 in, 4 o/p, USB Programming)	R1.190.1110.0
	SP-SCON-NET-P1-K	R1.190.0020.0	SP-COP2-EN-A (16 in, 4 o/p, 4 config i/o, USB & Eth Programming)	R1.190.1210.0
	SP-Memory	R1.190.0080.0	SP-COP2-ENI-A (16 in, 4 o/p, 4 config i/o, USB-Eth Programming, Eth protocols)	R1.190.1310.0
	SP-Cable1	R1.190.0090.0	SP-COP-CARD-1 (Industrial SD Card)	R1.190.1000.0
	(Connection Cable-M8)		SP-CABLE-USB-1 (USB cable 1.8m)	R1.190.1010.0
	SP-Cable 3 (Can Cable 1 metre)	81287	SP-CABLE-ETH-1 (Eth cable 1.8m)	R1.190.1020.0

* SP-SDI8-P1-K-A SP-SDIO84-P1-K-A	* SNE-4024 K-A	Fieldbus Gateways
		
Safe 8 Inputs (SP-SDI8) Safe 8 Inputs, 4 Outputs (SP-SDIO84)	Safe Relay Output Module	Fieldbus Gateways
In accordance with AS4024-2006, Category 2,3 or 4: Estop, two-hand buttons, safety gate, light curtain, scanner, enable switch, operating mode selector switch	In accordance with AS4024-2006, Category 2,3 or 4: Volt-free switching of actuators	Profibus DP. CANopen, Devicenet, Ethernet communication
8 Safe Inputs 2 Test Pulsing Outputs (X1,X2) 4 Semiconductor Safe Outputs rated at 24VDC, 2A	2 x 2 Safe Relay outputs 230VAC/6A 2 x 1 positively driven NC contact for feedback circuits	—
24 VDC	24 VDC	24 VDC
Inputs 15VDC -30 VDC at 3 mA. Outputs 24VDC at 2 Amp	2 x 2 Relay Outputs 230VAC/6A	—
96.5 x 22.5 x 121	96.5 x 22.5 x 114	96.5 x 22.5 x 114
• Max of 12 modules can be connected to the CPU. • Connected to CPU via safetybus on the side.	Use of 1 Semiconductor output from SP-SDIO84 to enable 1 set of Relay output as per Cat 4	Profibus-DP CANopen DeviceNet Ethernet Modbus/TCP Ethernet/IP Ethernet/Profinet

Part Number	Order Number	Part Number	Order Number	Part Number	Order Number
SP-DI8-P1-K-A	R1.190.0050.0	SNE-4024 K-A	R1.188.3930.0	SP-CANopen	R1.190.0210.0
SP-DIO84-P1-K-A	R1.190.0030.0			SP-Devicenet	R1.190.0230.0
				SP-PROFIBUS-DP	R1.190.0190.0
				SP-EN-MOD	R1.190.0130.0
				SP-EN-IP	R1.190.0150.0
				SP-EN-PN	R1.190.0140.0
				SP-VISUAL SET	R1.190.0280.0

7

Mosaic Programmable Controller

Mosaic is a modular, configurable safety controller for protecting machines or plants. Mosaic is capable of monitoring several safety sensors and commands, such as safety light curtains, laser scanners, photocells, mechanical switches, mats, emergency stops, two-hand controls and concentrating management of these in a single, flexible device.

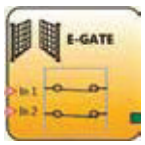
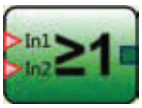
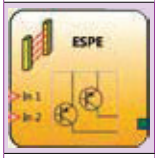
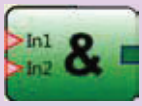
Mosaic is certified to the highest safety levels established by industrial safety standards: SIL 3, SILCL 3, PL e, Cat. 4. (EN ISO 13849-1, EN 62061).

You can download free Mosaic Programming tool from www.treotham.com.au/downloads/safety/Mosaic designer

Safety speed monitoring (up to PLe) for: zero speed control, max speed, speed range and direction Up to 4 logically selectable speed thresholds (freely configurable via MSD) for each logical output (axis) The modules includes two configurable via MSD logical outputs and is therefore able to control up to two independent axis

Mosaic MSC permits communication between the various units through a proprietary 5-way high speed safety bus. The MSC modular connectors can be used to connect the various expansion units to M1. The connectors are physically located on the back of each unit and are housed in the rail guide of the electrical cabinet.

Mosaic MCM is a proprietary removable memory card that can be used to save Mosaic configuration data for subsequent transfer to a new device without using a PC. The configuration in the MCM overwrites any other configuration present on M1, replacing this with that contained in MCM.
This configuration replacement function can be disabled on M1 via the MSD (Mosaic Safety Designer) configuration software. Overwrite operations are recorded in chronological order in the MOSAIC M1 LOG file.

	**E-GATE – DEVICE FOR MOVABLE GUARDS** E-GATE checks the status of the inputs connected to a device for movable guards, such as doors and gates. Test outputs may be used. Configurable inputs for contacts: 2 NC or 1 NC + 1 NO.		**OR** The output will be high (1) if at least one of the inputs is high (1)
	**ESPE - OPTO-ELECTRONIC SAFETY BARRIER OR SAFETY LASER SCANNER** Safety input object: For example: ESPE - opto-electronic safety barrier or safety laser scanner.		**NAND** For example: AND, OR. NAND, NOR, XOR, NOT e multi-plexer.
	**E STOP – EMERGENCY STOP** E-STOP checks the status of the inputs connected to an emergency stop device. Test outputs may be used. Configurable inputs for contacts: 1 NC or 2 NC		**XOR** The output will be low (0) if all the inputs are in the same logical status.
	**S-MAT – SAFETY MAT** S-MAT checks the status of the inputs connected to a safety mat or safety edge. Test outputs must be used. Cannot be used with 2-wire safety mats with terminal resistance.		**D FLIP FLOP** D FLIP FLOP permits memorisation on the Q output of the status present at D input on the rising edge of the Ck input.
	**MOD-SEL – SAFETY SELECTOR** MOD-SEL checks the status of the inputs connected to a functioning mode selector (up to 4 inputs). Configurable inputs for two, three or four position selectors.		**COUNTER** COUNTER is an impulse counter that sets the Q output high (1) on reaching the set number.

Mosaic Programmable Controller

NEW

	M1	* MI802
		 
Range of use	From 4 Safety functions	From 4 Safety functions
Application range	SIL 3 to IEC 61508, SIL CL 3 to IEC 62061, PI e to EN ISO 13849-1, Cat 4 to AS 4024.2006	SIL 3 to IEC 61508, SIL CL 3 to IEC 62061, PI e to EN ISO 13849-1, Cat 4 to AS 4024.2006
Inputs/Outputs	8 Freely programmable inputs 2 inputs for Reset and EDM 2 OSSD Pairs Safety Outputs 2 PNP Signal Outputs 4 Test Pulse Outputs for sensor monitoring	8 Freely programmable inputs 2 inputs for Reset and EDM 2 OSSD Pairs Safety Outputs 2 PNP Signal Outputs digital 4 Test Pulse Outputs for sensor monitoring
Supply voltage(U_B)	24 VDC	24 VDC
Utilisation Category	PNP 400 mA	Inputs 15VDC -30 VDC at 3 mA. Outputs 24VDC PNP-400mA
Features	Configurable using MSD Mosaic Safety Designer using USB Removable memory card for saving configuration data Max 11 expansion units in addition to M1 Master units excl. relay modules Max 128 Inputs & 16 OSSD Pairs	Maximum of 11 modules can be connected to M1 excluding MR2/MR4 Relay modules

Order Number

Part Number	Order Number	Part Number	Order Number
Mosaic Master module	M1	Mosaic 8 Inputs 2 OSSD Pairs	MI802
Programming cable	CSU		
Mosaic Rear Connector for expander modules	MSC		
Mosaic Networking Module	MCT		
Mosaic Configuration Memory	MCM		
MC25- shielded cable for MCT bus 25m MC50 -shielded cable for MCT bus 50m MC100- shielded cable for MCT bus 100m			

Mosaic Programmable Controller

* MI8/MI16	MR2/MR4	Fieldbus Gateways	Speed Monitor
			
Safe Input Module	Safe Relay Output Module	Fieldbus Gateways	Safe zero speed, maximum speed, speed range & direction
SIL 3 to IEC 61508, SIL CL 3 to IEC 62061, PI e to EN ISO 13849-1, Cat 4 to AS 4024.2006	SIL 3 to IEC 61508, SIL CL 3 to IEC 62061, PI e to EN ISO 13849-1, Cat 4 to AS 4024.2006	SIL 3 to IEC 61508, SIL CL 3 to IEC 62061, PI e to EN ISO 13849-1, Cat 4 to AS 4024.2006	SIL 3 to IEC 61508, SIL CL 3 to IEC 62061, PI e to EN ISO 13849-1, Cat 4 to AS 4024.2006
MI8 - 8 digital inputs, MI16 - 16 digital inputs, 4 test pulses for sensor monitoring, Connection to M1 via MSC proprietary bus	MR2- 2 NO, 1NC Relay output Connectable to 1 x OSSD Pair MR4- 4 Relays 4NO + 2 NC Connectable to 2 independent OSSD Pairs	–	Up to 2 Sin/Cos* or 2 HTL Encoders & Up to 2 PNP Prox sensors
24 VDC	24 VDC	24 VDC	24 VDC
	6 Amps -240VAC	–	PNP 400 mA
Maximum of 11 modules can be connected to M1 excluding relay modules	Mosaic MR2 and MR4 are passive units that can also be used separately from the Mosaic system. Each NO contact is interrupted twice by 2 Safety Relays	Profibus DP Devicenet CANopen EthernetIP EtherCAT Profinet Universal Serial Bus	(1) Up to 4 logicallay selected speed thresholds (software configurable) for each axis. (2) Monitoring of 2 x Independent axis from each module (3) RJ 45 connectors for Encoders, Terminals for Prox Sensors

Part Number	Order Number	Part Number	Order Number	Part Number	Order Number	Part Number	Order Number
Mosaic 8 digital inputs:	MI8	Mosaic 2 Relays:	MR2	Profibus DP:	MBP	2 HTL Enc or 2 Prox	MV2H
Mosaic 16 digital inputs:	MI16	Mosaic 4 Relays	MR4	Devicenet:	MBD	2 Sin/Cos Enc	MV2S*
				CANopen:	MBC	1 or 2 prox sensors	MV0
				Ethernet IP: Ethercat:	MBEI MBEC	Hollow Enc 24VDC 2048 PPR	SC324B2048R*
				Profinet:	MBEP	Shaft Enc 24VDC-2048 PPR	SC324D2048R*
				Universal Serial Bus:	MBU	M12, 8 poles, straight, 10m	C8D 10 SH*
						M12, 8 poles, angled 10m	C8D 910 SH*

* Sin/Cos Encoders