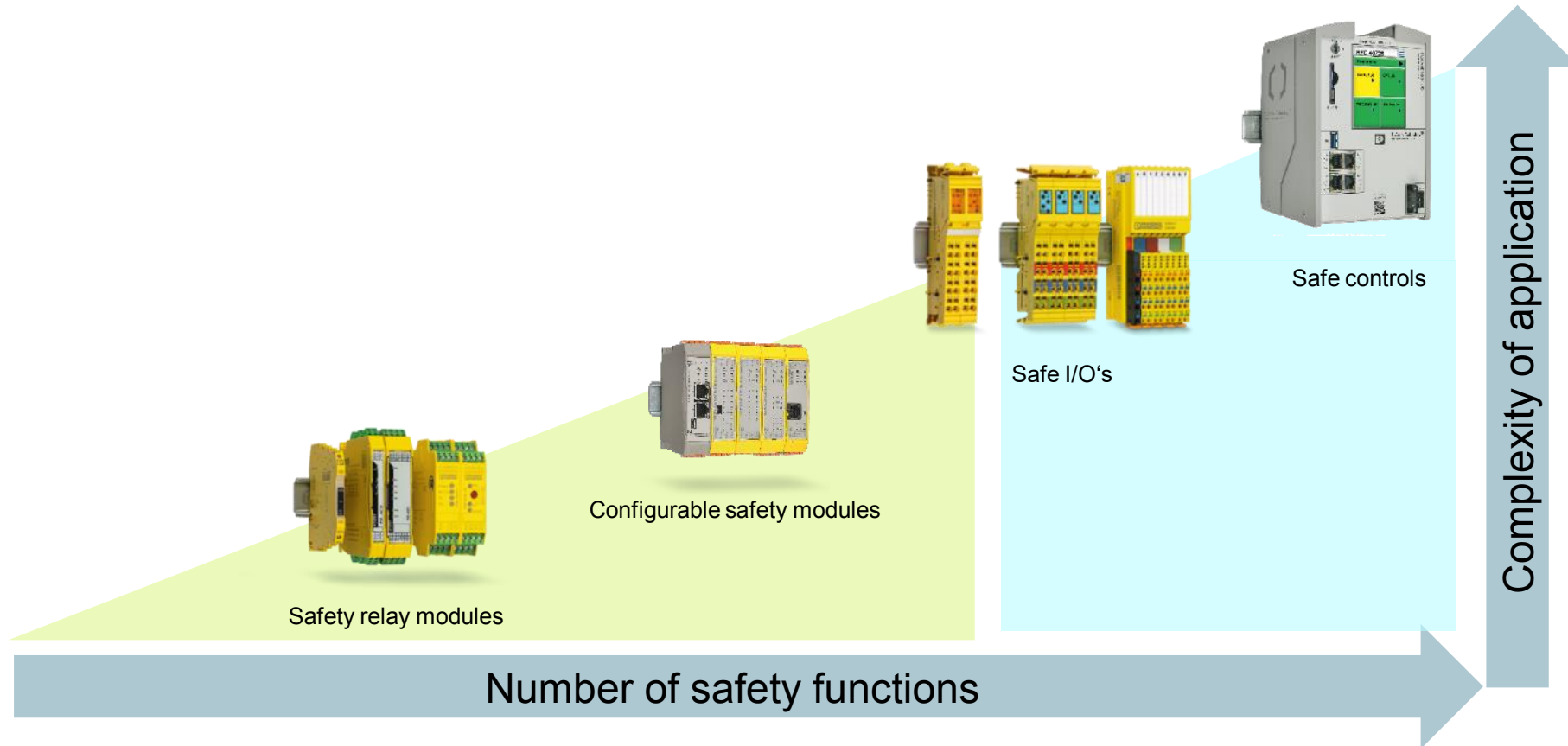


PSRmodular: Product Introduction



Configurable safety modules PSRmodular

Positioning

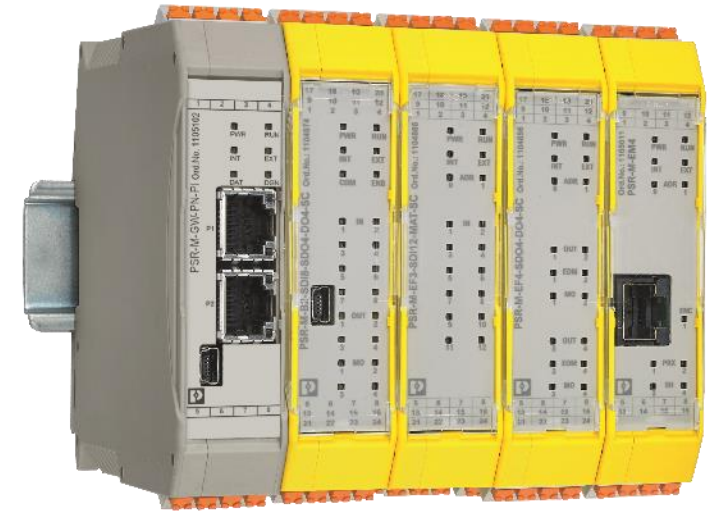


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Our solution: Configurable safety modules PSRmodular

Customer benefits

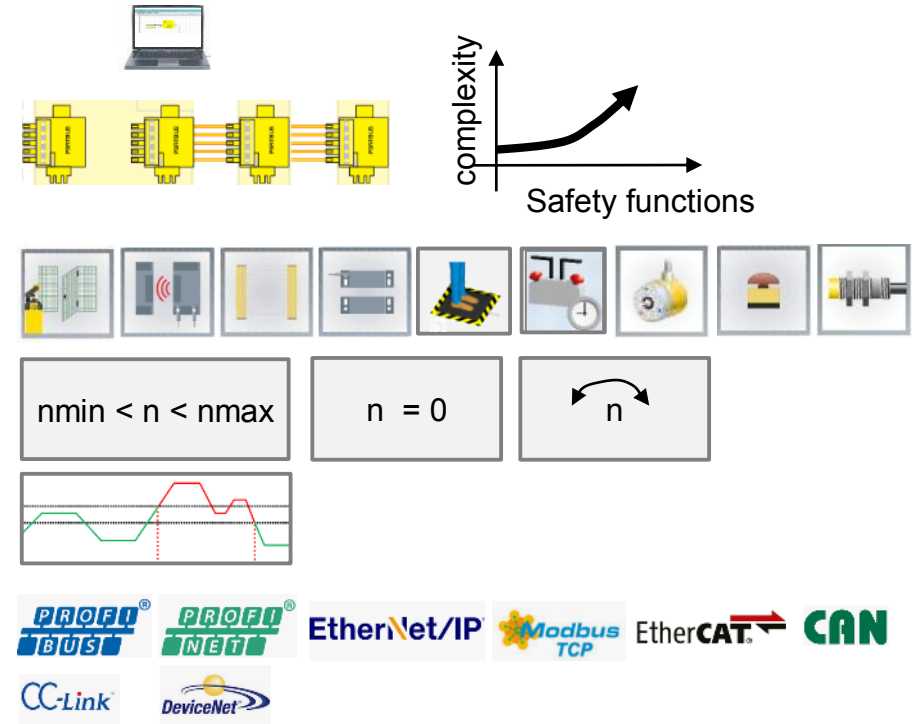
- ✓ **High scalability** - Cost effective solution because it is highly adaptable to the customer needs
- ✓ **Easy handling** - reduced engineering times thanks to easy configuration of hardware and software
- ✓ **Easy diagnostics** - minimized machine downtimes due to comprehensive diagnostics



Configurable safety modules PSRmodular

Features of PSRmodular

- ✓ Configurable via Software
- ✓ Expandable via PSR-TBUS connection
- ✓ High scalability from small to midsize applications
- ✓ Compatible to many safety sensors
- ✓ Safe motion integrated
- ✓ Safe analog integrated
- ✓ Gateways for several networks
- ✓ Small footprint of 22.5 mm per slice



Configurable safety modules PSRmodular

Target industries and applications



Machine Build



Packaging



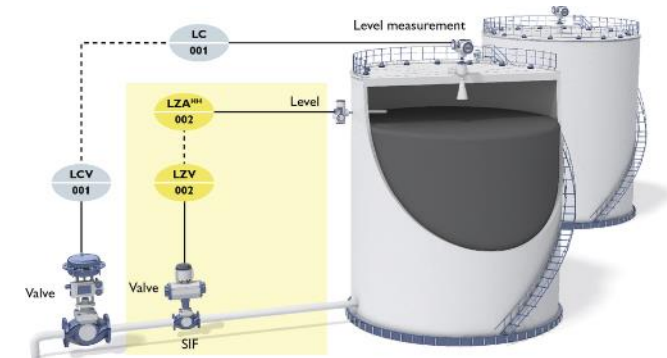
AGV - Systems



Lifts



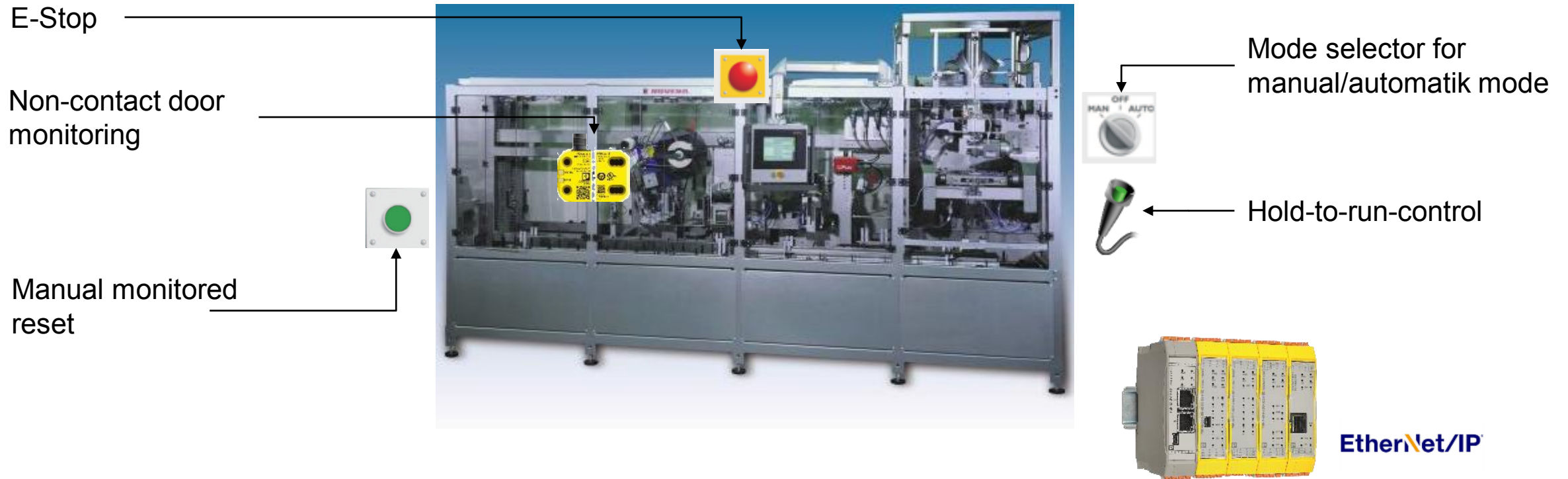
Rides at amusement park



Process

Configurable safety modules PSRmodular

Application example: Packaging



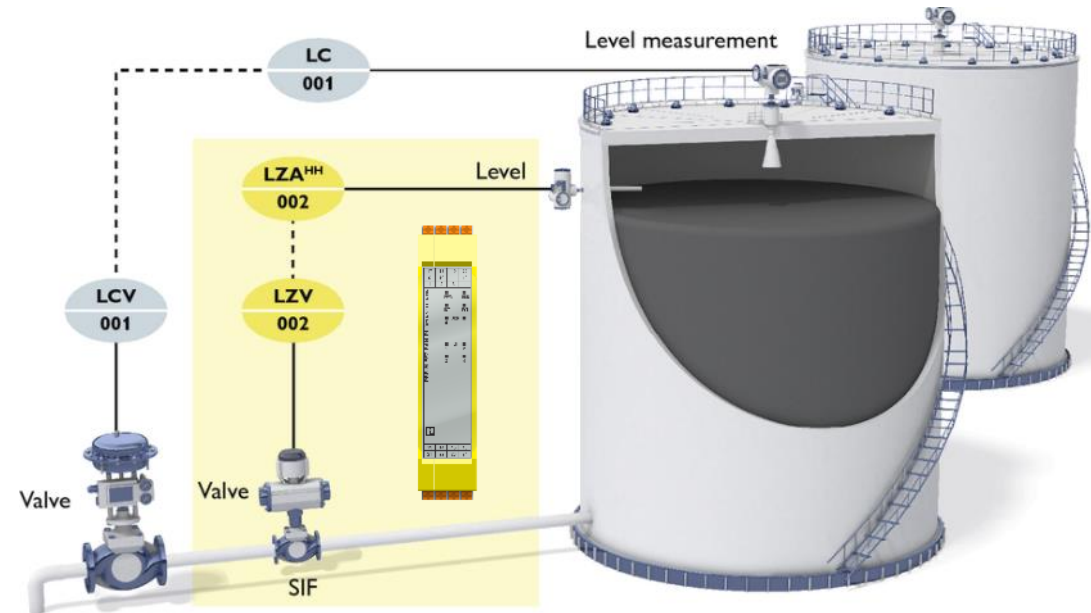
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Application example: Analog monitoring for process applications

- Threshold monitoring for:
 - Level measurement
 - Flow measurement
 - Pressure measurement
 - Temperature measurement

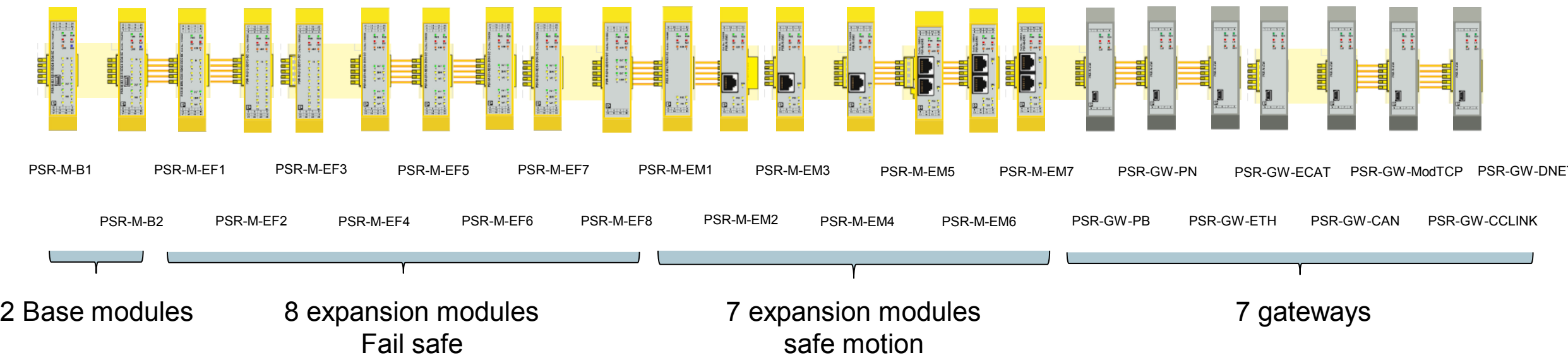
Features of safe analog expansion module

- 4 channels (1Ch or 2Ch)
- 0(4)...20mA or 0...10V
- Mathematical operations



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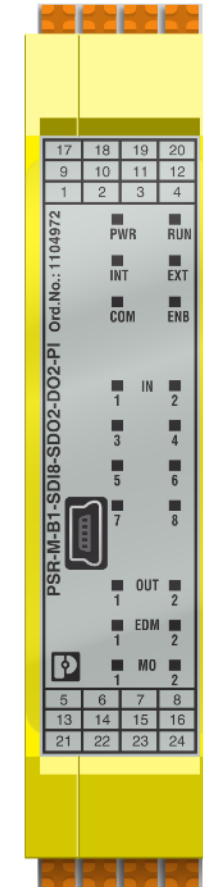
Portfolio overview



Configurable safety modules PSRmodular

Base Modules

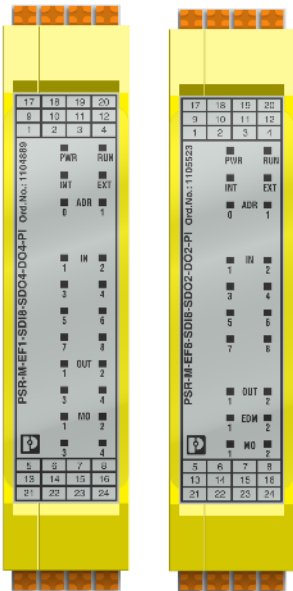
Features	PSR-M-B1-SDI8-SDO2-DO2	PSR-M-B2-SDI8-SDO4-DO4
Digital local safety inputs	8	8
EDM/Restart-inputs	2	4
Digital local safety outputs	2 x pair	4 x single or 2 x pair
Max No. safe I/Os per system	128 / 16	128 / 32
Testpulses	4	4
Local monitoring Out	2	4
Max No. Monitoring out per system	32	48
Max No of function blocks	64	128
Max No of Timer/Muting/guard lock	32 / 4 / 4	48 / 8 / 8
Virtual I/O's for non-safe communication	8 / 16	32 / 32
Supports analog monitoring	-	yes



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Expansion Modules – Failsafe – digital I/O

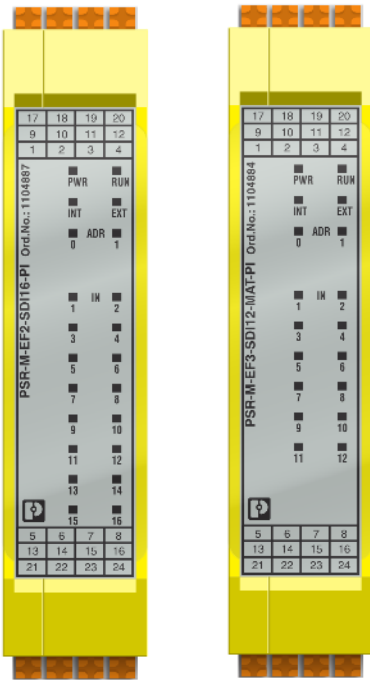
Features	PSR-M-EF1-SDI8-SDO4-DO4	PSR-M-EF8-SDI8-SDO2-DO2
Digital inputs	8	8
EDM/Restart-inputs	4	2
Digital outputs (400mA)	4 x single or 2 x pair	2 x pair
Testpulses	4	4
Monitoring out (100mA)	4	2



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Expansion Modules – Failsafe – digital Inputs

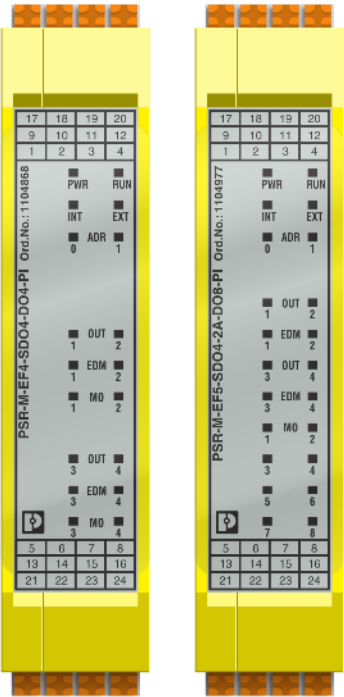
Features	PSR-M-EF2-SDI16	PSR-M-EF3-SDI12-MAT
Digital inputs	16	12
Testpulses	4	8
Safety mats / edges (4-wire)	--	up to 4



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Expansion Modules – Failsafe – digital outputs

Features	PSR-M-EF4-SDO4-DO4	PSR-M-EF5-SDO4-2A-DO8
Maximum current	2 x 4 x 0.4 A	4 x 2 A
EDM/Restart-inputs	4	4
Number of digital outputs	4 x pair	4 x single or 2 x pair
Monitoring out (100mA)	4	8



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Expansion Modules – Failsafe – relay outputs

Features	PSR-M-EF6-SDOR4
Maximum current	Up to 6A per NO
EDM/Restart-inputs	4
Number of NO	2 x pair or 4 x single



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Expansion Modules – Failsafe – analog inputs

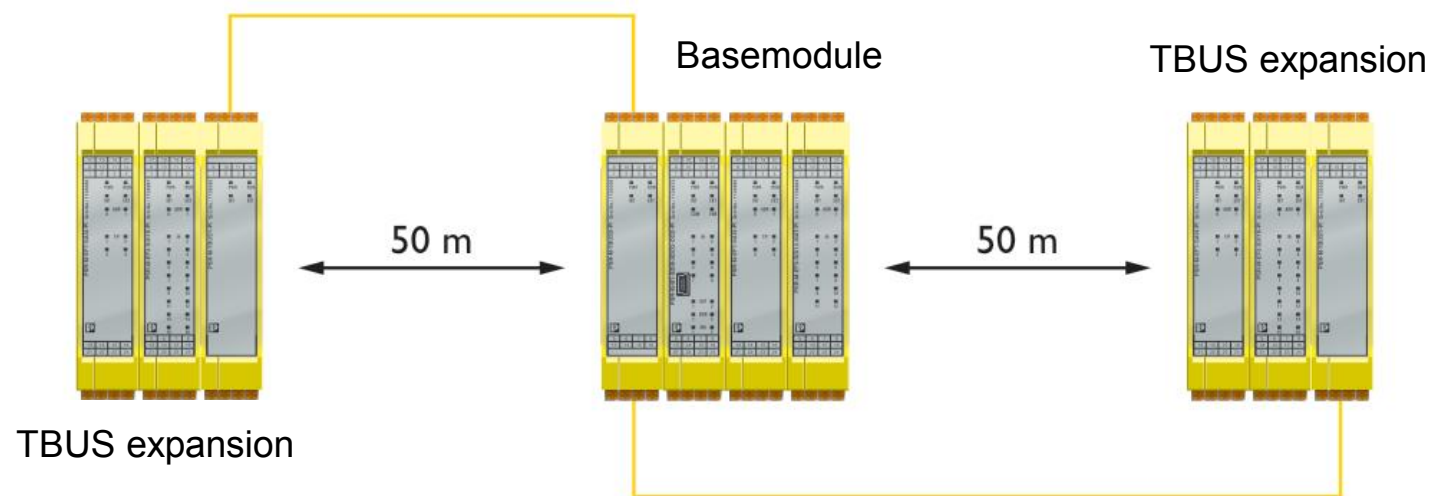
Features	PSR-M-EF7-SAI4
Analog inputs	2 x pairs or 4 single
0 – 10V	Yes
0(4) – 20 mA	Yes
Treshold value monitoring	Yes
Range monitoring	Yes
Mathematical operations	Yes
Plausibility	Yes



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Expansion Modules – TBUS expansion

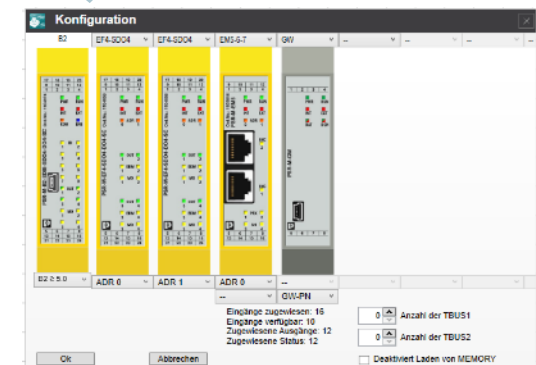
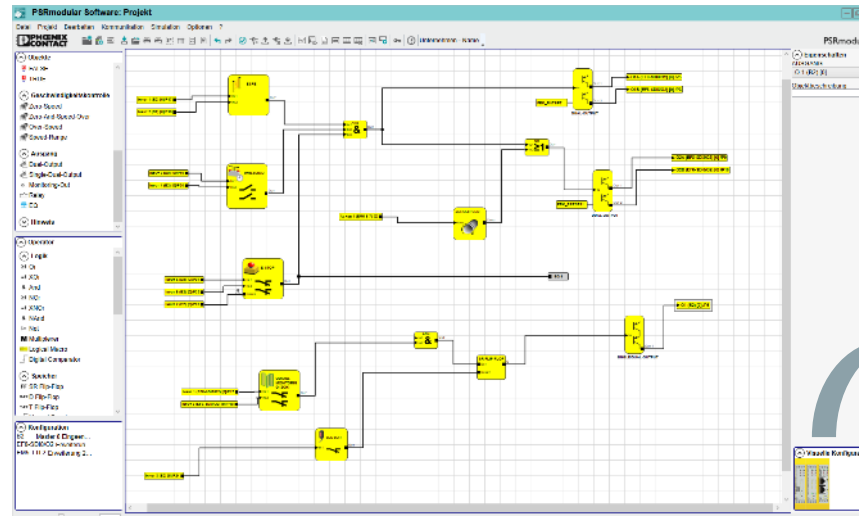
Features	PSR-M-TBUS1	PSR-M-TBUS2
Connection channel	1	2
Max # of TBUS expansions	6	



Configurable safety modules PSRmodular

PSRmodular Software

- Graphical configuration
- Many safety function blocks
- Boolean operators
- Counter, timer, flip-flop,
- Response time calculator



Configurable safety modules PSRmodular

Expansion Modules – Gateways

- Bidirectional non-safe communication
- Up to Bit 32 In / 32 Out
- All relevant networks



PSRmodular configurable safety modules