



Yokogawa Centum VP and ProSafe RS interface solutions

COOPER  Crouse-Hinds



Yokogawa Centum VP and ProSafe RS integrated solutions

MTL4500 series IS interfaces

Both the Centum and ProSafe solutions are based on the same format 8 and 16 way backplanes designs. MTL backplanes may be surface or dual DIN rail mounted.

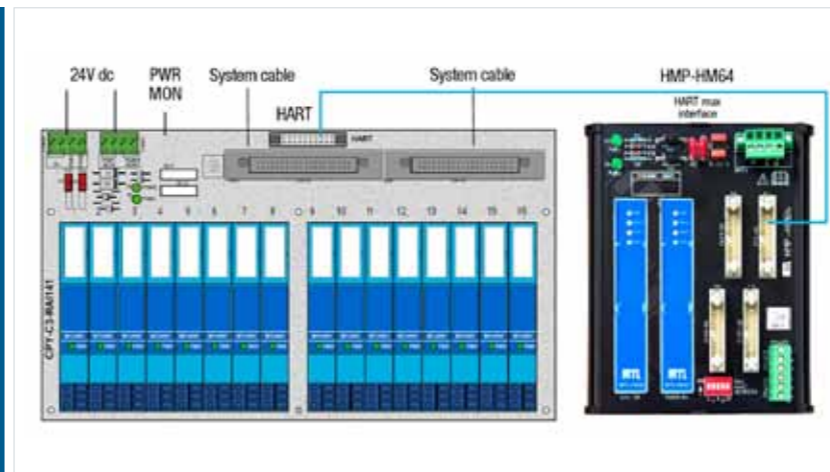
Introduction

MTL has a long history of providing solutions to Yokogawa for intrinsic safety applications from the early Centum XL and ProSafe to the latest Centum VP and ProSafeRS systems.

MTL is a renowned and respected supplier for intrinsic safety with over 40 years experience in the industry. The interface solutions provided meet all the requirements for worldwide applications.

MTL's IS barrier ranges include the MTL7700 series zener barriers, MTL5500 series DIN rail isolators and the MTL4500/4600 series backplane mounted isolating barriers. The backplane mounting ranges provide the integrated designs for direct cable connection to the system cards.

In addition to the IS interfaces MTL also manufacture a range of general purpose termination boards for Centum VP and ProSafeRS.



Product Range overview

CPY-C3 series

An extensive range of backplanes, for use with the MTL4500 series IS isolators and the MTL4600 general purpose range. Single, dual and 4 channel isolator options address the end users requirements for loop integrity and, where needed, the highest possible packing density.

CPY-RS series

MTL's range of backplanes address the requirements for safety applications. MTL4500 series isolators are functional safety assessed for such applications to the latest standards. Signal conditioning and diagnostics are available to provide the user with all the information required for reliable plant operation.

YTB-VP series

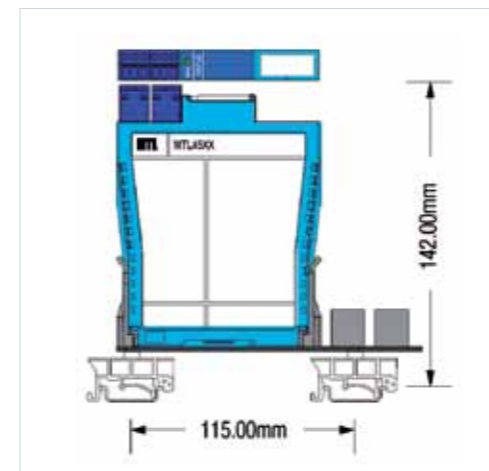
For use with the Centum VP these provide a remote cable connected interface for field wiring.

YTB-RS series

This series is designed with 2 rows of terminals to provide a compact interface. Each interface is supplied in a carrier for direct DIN rail mounting.

YTA series

Similar to the YTB series, the YTA provides single row terminals where stacked terminals are not the preferred solution.



All MTL4500 series analogue input and output modules are HART compatible. HART is passed directly through to HART compatible system cards. Alternatively the backplanes may be used to extract the HART data into a separate maintenance system via the MTL4800 series HART multiplexer products.

For digital signals, isolators may be chosen to provide line monitoring on both inputs and outputs. A wide range of backplanes are provided to offer single, dual and 4 channel isolator options for majority of Yokogawa system IO modules.



Intrinsically safe solutions you can profit from...

Centum VP MTL4500 Series Interfaces

A range of dedicated backplanes and connections units are available to interface with MTL4500 series intrinsically safe isolator modules and the MTL HART maintenance system products.

I/O module	Backplane	Function	MTL module	Cable	Red'nt
AAI135	CPY-C3-RAI135/835	8ch AI 4-20mA	MTL4541/4575 x 8	KS1x2	Yes
AAI835	CPY-C3-RAI135/835	4ch AI + 4ch AO	MTL4541 x 4 + 4546Y x 4	KS1x2	Yes
AAI141(-H)	CPY-C3-AAI141	32ch AI 4-20mA	MTL4544 x 16	KS1x2	
AAV141	CPY-C3-AAV141	32ch AI 1-5V	MTL4544 x 16	KS1x2	
AAI141(-H)	CPY-C3-RAI141	16ch AI 4-20mA	MTL4541/4575 x 16	KS1x2	Yes
AAI141(-H)	CPY-C3-AAI141-HD	32ch AI 4-20mA	MTL4544 x 16	KS1x4	Yes
AAI143(-H)	CPY-C3-AAI141	32ch AI 4-20mA	MTL4544 x 16	KS1x2	
AAI143(-H)	CPY-C3-RAI141	16ch AI 4-20mA	MTL4541/4575 x 16	KS1x2	Yes
AAI543	CPY-C3-AAI543	16ch AO	MTL4546Y x 16	KS1x2	Yes
AAI543-H	CPY-C3-AAI543-H	16ch AO	MTL4546Y x 16	KS1x2	Yes
AAI543-H	CPY-C3-AAI543-HD	32ch AO	MTL4549Y x 16	KS1x4	Yes
AAI841	CPY-C3-AAI841	8ch AI + 8ch AO	MTL4541 x 8 + 4546Y x 8	KS1x2	Yes
AAI841-H	CPY-C3-AAI841-H	8ch AI + 8ch AO	MTL4541 x 8 + 4546Y x 8	KS1x2	Yes
AAV141	CPY-C3-RAV141	16ch AI 1-5V	MTL4541/4575 x 16	KS1x2	Yes
AAI841(-H)	CPY-C3-AAI841-HD	16ch AI 4-20mA	MTL4544 x 8 + 4549Y x 8	KS1x4	Yes
AAI841	CPY-C3-MA841	8ch AI + 8ch AO	MTL4544 x 4 + 4546Y x 8	KS1x2	Yes
AAB841	CPY-C3-RAB841	8ch AI + 8ch AO	MTL4541 x 8 + 4546Y x 8	KS1x2	Yes
AAI141(-H)	CPY-C3-RAI141-H8	16ch AI 4-20mA	MTL4544 x 8	KS1x2	Yes
AAI841-H	CPY-C3-RAI841-H8	8ch AI + 8ch AO	MTL4544 x 4 + 4549Y x 4	KS1x2	Yes
AAI841	CPY-C3-RAI841-8	8ch AI + 8ch AO	MTL4544 x 4 + 4549Y x 4	KS1x2	Yes
AAV141	CPY-C3-RAV141-8	16ch AI 1-5V	MTL4544 x 8	KS1x2	Yes
AAB841	CPY-C3-RAB841-8	8ch AI + 8ch AO	MTL4544 x 4 + 4549Y x 4	KS1x2	Yes
AAI543(-H)	CPY-C3-RAI543-H8	16ch AO	MTL4549Y x 8	KS1x2	Yes
ADV161	CPY-C3-ADV161	64ch DI	MTL4510 x 16 AKB337		
ADV161	CPY-C3-ADV151	32ch DI	MTL4516/4517 x 16	AKB337	Yes
ADV151	CPY-C3-ADV151	32ch DI	MTL4516/4517 x 16	AKB331	Yes
ADV151	CPY-C3-ADV151-M	16ch DI+LFD	MTL4511/4514 x 16	AKB331	Yes
	CPY-C3-ADV151-S	16ch DI+LFD	MTL4511/4514 x 16		
ADV151	CPY-C3-ADV151-H8	32ch DI	MTL4510 x 8	AKB331	Yes
ADV551	CPY-C3-ADV551-M	16ch DO+LFD	MTL4524/4525/4523R*	AKB331	Yes
	CPY-C3-ADV551-S	16ch DO+LFD	MTL4524 /23R linked to Master*		
ADV551	CPY-C3-ADV551L-M	16ch DO	MTL4521, 4521L	AKB331	Yes
	CPY-C3-ADV551L-S	16ch DO	MTL4521, 4521L		
ADV561	CPY-C3-ADV551-M x2	16ch DO+LFD	MTL4524/4525/4523R*	AKB337	Yes
	CPY-C3-ADV551-S x2	16ch DO+LFD	MTL4524 /23R linked to Master*		
ADV159	CPY-C3-ADV159	16ch DI	MTL4511/4514	KS2	
ADV559	CPY-C3-ADV559	16ch DO	MTL4524/4525/4523R	KS2	

Note: Compatible module alternatives

MTL4516 specified, MTL4513 is compatible
 MTL4524 specified, MTL4525 is compatible. *NOTE: in Off state max output voltage is 4V open circuit.
 MTL4541 specified, MTL4532 in pulse to current mode, MTL4541A or MTL4575 are compatible.

ProSafe RS

MTL4500 series interfaces

A dedicated range of backplane interfaces are available to interface the ProSafe RS safety system with MTL4500 series intrinsically safe isolator modules and the MTL HART maintenance system.

ProsafRS IO module	Backplane	Function	MTL module	Redundant cable connection
SAI143(-H)	CPY-RS-AI16-KS	16ch AI	MTL4544/44A	KS1
SAI143(-H)	CPY-RS-SAI16-KS	16ch AI	MTL4541/41A	KS1
SAV144	CPY-RS-AI16V-KS	16ch AI	MTL4544/44A	KS1
SAV144	CPY-RS-SAI16V-KS	16ch AI	MTL4541/41A	KS1
SAI533(-H)	CPY-RS-AO8-KS	8ch AO	MTL4546Y	KS1
SDV144	CPY-RS-DI16-AKB	16ch DI	MTL4516/17	AKB331
SDV144	CPY-RS-SDI16-AKB	16ch DI+LFD	MTL4511/14	AKB331
SDV144	CPY-RS-SPI16-AKB	16ch DI+LFD	MTL4501-SR	AKB331
SDV144	CPY-RS-SSI16-AKB	16ch DI+LFD	MTL4504	AKB331
SDV531	CPY-RS-DO8-AKB	8ch DO	MTL4521/21L/23L/23V	AKB331
SDV541	CPY-RS-DO16-AKB	16ch DO	MTL4521/21L/23L/23V	AKB331

Signal Isolation - MTL4600 series

The MTL4600 series isolator range provides channel to channel signal isolation when used with Centum VP or ProSafeRS in non-intrinsically safe applications. 1500Vac isolation is provided, this protects the system cards from high common mode voltages, that can occur under fault conditions.

The MTL4600 modules are used with the appropriate CPY backplanes described earlier.



Centum VP / ProSafe RS Termination Boards

YTB series - These termination boards provide remote terminations via standard cable connections to the Centum VP and ProSafe RS systems. All interfaces are supplied in carriers for DIN rail mounting. Dual power supplies and power monitoring are provided, where required. Double row field terminals to provide maximum packing density.

Product number	IO card	Function
	CENTUM VP	
YTB-VP-AI16-KS	AAI141/143 16	channel analogue input
YTB-VP-AIO16-KS	AAI143/543 AAI135/835	16 channel analogue input and output 8ch AI and 8ch AO isolated
YTB-VP-DI32-AKB	ADV151/161	32 channel digital input
YTB-VP-RO32-AKB	ADV551/561	32 channel relay output
	PROSAFE	
YTB-RS-AI16-KS	SAI143	16 channel analogue input
YTB-RS-AO8-KS	SAI533	8 channel analogue output
YTB-RS-DI16-AKB	SDV144	16 channel digital input
YTB-RS-DO8-AKB	SDV531	8 channel digital output
YTB-RS-DO16-AKB	SDV541	16 channel digital output



YTA series - These termination boards provide remote terminations via standard cable connections to the Centum VP and ProSafe RS systems. All interfaces are supplied in carriers for DIN rail mounting. Dual power supplies and power monitoring are provided, where required. Single row field terminals are fitted where customer requirements specify this.

Product number	IO card	Function
	CENTUM VP	
YTA-C3-AIO16-KS	AAI143/543	16ch Analogue input or Output
YTA-C3-DI32-AKB	ADV151	32ch
	PROSAFE	
YTA-RS-AI16-KS	SAI143	16ch AI
YTA-RS-AO8-KS	SAI533	8ch AO
YTA-RS-DI16-AKB	SDV144	16ch DI
YTA-RS-DO8-AKB	SDV531	8ch DO
YTA-RS-DO16-AKB	SDV541	16ch DO

Centum VP FOUNDATION™ fieldbus

F800 / 91XX series conditioned Fieldbus power supplies

Type	MTL Model number series	DIN-rail orientation	Compatible with	Preferred for new projects?
8-segment N+1 redundant	9188-91-Px	Horizontal	Yokogawa ALF111 Fieldbus H1 modules via AKB336 cables	Yes
4-segment FISCO redundant	9108-22-Px	Back-panel		Yes



FS32 Pluggable trunk surge protector

- Redundant fieldbus power for FOUNDATION™ fieldbus cards
- Flexible N+1 redundancy
- Can reduce initial capital cost by 25% whilst supporting future expansion
- Fully isolated hot-swappable power modules
- Low power dissipation
- On-line diagnostics option
- Pluggable trunk surge protection option



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