

Termination Carrier

Product overview

Application note
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1 Description

Termination Carriers are the consistent interface solution for system technology.

Termination Carriers are compact solutions for quickly and smoothly connecting DIN rail devices from the MINI Analog, MINI Analog Pro, and MACX Analog (Ex) series and safety coupling relays to input and output cards of automation systems. Both universal and controller-specific versions as well as matching and comprehensive accessories are available and are presented in this product overview. Only standard DIN rail devices are used on the Termination Carrier, special devices are not required.

The signal conditioners are connected to a separate power and fault signaling module via integrated DIN rail connectors. All Termination Carriers designed for the MINI Analog, MINI Analog Pro or MACX Analog (Ex) series include the feed-in cable set, the appropriate number of signal cable sets, and DIN rail connectors (TBUS).

The termination PCB is passive. It does not contain any active components whose failure would require the Termination Carrier to be replaced.

In the case of the Termination Carriers for the PSR relay series, an active feed-in circuit is integrated on the PCB thereby eliminating the need for a fault signaling module and the corresponding feed-in cable set. The signal cable set for the selected coupling relay must be ordered separately in the appropriate quantity.

Furthermore, a DIN rail connector (TBUS) is not needed for the coupling relay, which is why it is not integrated in the Termination Carriers for the PSR series.

For detailed information, please refer to the documentation for the relevant product at phoenixcontact.net/products.



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2 Universal Termination Carriers (Emerson DeltaV and Honeywell C300)

2.1 MINI Analog Termination Carriers

Termination Carrier	Order No.	Signal conditioner
TC-D37SUB-ADIO16-M-P-UNI incl. TC-C-PTB1-AI-SET1 incl. TC-C-2MIN-AL-05061516	2902933 incl. (2905217) incl. (2905224)	Depending on the application, all single-channel modules from the MINI Analog range can be used.
TC-D37SUB-AIO16-M-PS-UNI incl. TC-C-PTB1-AI-SET1 incl. TC-C-2MIN-AL-05061516	2902934 incl. (2905217) incl. (2905224)	Depending on the application, all single-channel analog modules from the MINI Analog range can be used.

Up to 16 of the signal conditioners listed can be used on these Termination Carriers.

The modules from Section 6.1.1 "MINI Analog Termination Carriers" (in their basic version) are required for feed-in on these Termination Carriers.

The corresponding system cables can be found in Section 2.5 "Emerson DeltaV system cabling" or Section 2.6 "Honeywell C300 system cabling".

2.2 MINI Analog Pro Termination Carriers

Termination Carrier	Order No.	Signal conditioner
TC-D37SUB-ADIO16-MP-P-UNI incl. TC-C-PTBP-PT-SET1 incl. TC-C-2MIN-AL-05061516	2906639 incl. (2905915) incl. (2905914)	Depending on the application, all the modules from the MINI Analog Pro range can be used.
TC-D37SUB-AIO16-MP-PS-UNI incl. TC-C-PTBP-PT-SET1 incl. TC-C-2MIN-AL-05061516	2906640 incl. (2905915) incl. (2905914)	Depending on the application, all analog modules from the MINI Analog Pro range can be used.

Up to 16 of the signal conditioners listed can be used on these Termination Carriers.

The modules from Section 6.1.2 "MINI Analog Pro Termination Carriers" (in their basic version) are required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 2.5 "Emerson DeltaV system cabling" or Section 2.6 "Honeywell C300 system cabling".

2.3 MACX Analog Ex Termination Carriers



The Ex i signal conditioners are also available in a non-Ex i version.

Termination Carrier	Order No.	Signal conditioner	Order No.
TC-D37SUB-ADIO16-EX-P-UNI incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31320000	2924854 incl. (2905216) incl. (2902425)	MACX MCR-EX-SL-RPSSI-I(-SP)	2865340 (2924016)
		MACX MCR-EX-SL-RTD-I(-SP)	2865939 (2924142)
		MACX MCR-EX-SL-TC-I(-SP)	2865942 (2865586)
		MACX MCR-EX-SL-IDS-I (-SP)	2865405 (2924032)
		MACX MCR-EX-SL-NAM-R(-SP)	2865434 (2924045)
		MACX MCR-EX-SL-NAM-2RO(-SP)	2865450 (2924061)
		MACX MCR-EX-SL-NAM-2T(-SP)	2865463 (2924074)
		MACX MCR-EX-SL-NAM-NAM(-SP)	2866006 (2924883)
		MACX MCR-EX-SL-NAM-HO(-SP) ¹	2907404 (2907405)
		MACX MCR-EX-SL-SD-21-25-LP(-SP)	2865492 (2924113)
		MACX MCR-EX-SL-SD-21-25-LFD(-SP)	2905669 (2905674)

¹ Can only be used for Honeywell C300

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 2.5 “Emerson DeltaV system cabling” or Section 2.6 “Honeywell C300 system cabling”.

Termination Carrier	Order No.	Signal conditioner	Order No.
TC-D37SUB-AIO16-EX-PS-UNI incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31320000	2902932 incl. (2905216) incl. (2902425)	MACX MCR-EX-SL-RPSSI-I(-SP)	2865340 (2924016)
		MACX MCR-EX-SL-RTD-I(-SP)	2865939 (2924142)
		MACX MCR-EX-SL-TC-I(-SP)	2865942 (2865586)
		MACX MCR-EX-SL-IDS-I (-SP)	2865405 (2924032)

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 2.5 “Emerson DeltaV system cabling” or Section 2.6 “Honeywell C300 system cabling”.

Termination Carrier	Order No.	Signal conditioner	Order No.
TC-2D37SUB-ADIO32-2EX-P-UNI incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31322122	2904684 incl. (2905216) incl. (2904674)	MACX MCR-EX-SL-RPSS-2I-2I(-SP)	2865382 (2924676)
		MACX MCR-EX-SL-2NAM-RO(-SP)	2865476 (2924087)
		MACX MCR-EX-SL-2NAM-T(-SP)	2865489 (2924090)

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 2.5 “Emerson DeltaV system cabling” or Section 2.6 “Honeywell C300 system cabling”.

2.4 Coupling relay Termination Carriers

Termination Carrier	Order No.	Coupling relay	Order No.
TC-2D37SUB-DO16-ESD-AR-UNI	2902913		
excl. TC-C-PSR3-SC-A10000A23132	2903390	PSR-SCP- 24DC/FSP/2X1/1X2	2986960
excl. TC-C-PSR3-SC-A10000A23132	2903390	PSR-SCP- 24DC/FSP2/2X1/1X2	2986575
excl. TC-C-PSR3-SC-A10000A20000	2903389	PSR-SCP- 24DC/FSP/1X1/1X2	2981978
excl. TC-C-PTSM-50-00000000J1J1	2903388	Connector for unused module slots	

Up to 16 of the coupling relays listed can be used on this Termination Carrier.

For this version of the Termination Carrier, the circuit for redundant feed-in and fault signaling is on the PCB.

The corresponding system cables can be found in Section 2.5 “Emerson DeltaV system cabling” or Section 2.6 “Honeywell C300 system cabling”.

Termination Carrier	Order No.	Coupling relay	Order No.
TC-2D37SUB-DO16-F&G-AR-UNI	2902914		
excl. TC-C-PSR3-SC-A100V+A20000	2903391	PSR-SCP- 24DC/ETP/1X1 (PSR-SPP- 24DC/ETP/1X1)	2986711 (2986562)
excl. TC-C-PCX3-SC-A100V+A20000	2906003	PSR-PC50-1NO-1DO-24DC-SC(-SP)	2904664 (2904665)

Up to 16 of the coupling relays listed can be used on this Termination Carrier.

For this version of the Termination Carrier, the circuit for redundant feed-in and fault signaling is on the PCB.

The corresponding system cables can be found in Section 2.5 “Emerson DeltaV system cabling” or Section 2.6 “Honeywell C300 system cabling”.

2.5 Emerson DeltaV system cabling

The Emerson DeltaV has a screw terminal block on the system side. The corresponding system cable with open ends is available in lengths from 0.5 m ... 6 m:

Designation	Order No.
CABLE-D-37SUB/F/OE/0,25/S/0,5M	2926221
CABLE-D-37SUB/F/OE/0,25/S/1,0M	2926234
CABLE-D-37SUB/F/OE/0,25/S/1,5M	2926247
CABLE-D-37SUB/F/OE/0,25/S/2,0M	2926250
CABLE-D-37SUB/F/OE/0,25/S/3,0M	2926263
CABLE-D-37SUB/F/OE/0,25/S/4,0M	2926276
CABLE-D-37SUB/F/OE/0,25/S/6,0M	2926289

2.6 Honeywell C300 system cabling

The Honeywell C300 can be connected by means of Plug and Play using a system cable and front adapter.

The corresponding system cable with D-SUB-37 socket at both ends is available in lengths from 1 m ... 20 m:

Designation	Order No.
CABLE-D37SUB/B/B/ 100/KONFEK/S	2305509
CABLE-D37SUB/B/B/ 200/KONFEK/S	2305512
CABLE-D37SUB/B/B/ 300/KONFEK/S	2305525
CABLE-D37SUB/B/B/ 400/KONFEK/S	2900759
CABLE-D37SUB/B/B/ 600/KONFEK/S	2900760
CABLE-D37SUB/B/B/ 800/KONFEK/S	2900761
CABLE-D37SUB/B/B/1000/KONFEK/S	2900762
CABLE-D37SUB/B/B/1500/KONFEK/S	2900763
CABLE-D37SUB/B/B/2000/KONFEK/S	2900764

The FLKM-PA-D37/HW/DIO/C300 front adapter (Order No. 2901423) can be used for digital cards.

The FLKM-PA-D37/HW/AN/C300 front adapter (Order No. 2900622) can be used for analog cards.

3 Yokogawa CENTUM VP system

3.1 Analog input cards

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
AAI141	TC-2KS40-AI16-M-PRH-CS ¹	2905257	MINI MCR-SL-UI-UI	2864383
AAI143	incl. TC-C-PTB1-AI-SET1 incl. TC-C-2MIN-AI-05061516	incl. (2905217) incl. (2905224)	MINI MCR-SL-SHUNT-UI	2810858
			MINI MCR-SL-U-UI	2864053
			MINI MCR-SL-I-I	2864406
			MINI MCR-SL-RPSS-I-I	2864079
			MINI MCR-SL-1CP-I-I	2864419
			MINI MCR-SL-UI-I-LP-NC	2902829
			MINI MCR-RTD-UI-NC	2902849
			MINI MCR-SL-PT100-UI-200	2864309
			MINI MCR-SL-PT100-UI	2864435
			MINI MCR-SL-PT100-LP	2810298
			MINI MCR-TC-UI-NC	2902851
			MINI MCR-SL-R-UI	2864095

¹ Due to the compact design of the Termination Carrier PCB, a daughter board is required in order to implement HART communication. Contact us for more information.

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The modules from Section 6.1.1 "MINI Analog Termination Carriers" (in their basic version) are required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 3.5 "System cabling".

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
AAI141	TC-2KS40-AI16-EX-PR-CS	2905677	MACX MCR-EX-SL-RPSSI-I(-SP)	2865340 (2924016)
AAI143	incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31320000	incl. (2905216) incl. (2902425)	MACX MCR-SL-RPSSI-I	2865955
			MACX MCR-EX-SL-RTD-I(-SP)	2865939 (2924142)
			MACX MCR-SL-RTD-I(-SP)	2865065 (2924317)
			MACX MCR-EX-SL-TC-I(-SP)	2865942 (2865586)
			MACX MCR-SL-TC-I	2924333

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 "MACX (Ex) Termination Carriers" (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 3.5 "System cabling".

3.2 Analog output cards

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
AAI543	TC-2KS40-AO16-M-PRH-CS ¹ incl. TC-C-PTB1-AI-SET1 incl. TC-C-2MIN-AI-05061516	2905905 incl. (2905217) incl. (2905224)	MINI MCR-SL-IDS-I-I	2905577

¹ Due to the compact design of the Termination Carrier PCB, a daughter board is required in order to implement HART communication. Please contact us for more information.

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The modules from Section 6.1.1 "MINI Analog Termination Carriers" (in their basic version) are required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 3.5 "System cabling".

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
AAI543	TC-2KS40-AO16-EX-PR-CS incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31320000	2905201 incl. (2905216) incl. (2902425)	MACX MCR-EX-SL-IDSI-I(-SP) MACX MCR-SL-IDSI-I	2865405 (2924032) 2865971

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 "MACX (Ex) Termination Carriers" (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 3.5 "System cabling".

3.3 Digital input cards

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
ADV151 (32 channels): 1 TC per card	TC-2KS50-DI32-2EX-PR-CS incl. TC-C-PTB3-SC-SET1	2904676 incl. (2905216)	MACX MCR-EX-SL-2NAM-RO(-SP)	2865476 (2924087)
ADV161 (64 channels): 2 TC per card	incl. TC-C-MAX2-SC-31322122	incl. (2904674)	MACX MCR-SL-2NAM-RO MACX MCR-EX-SL-2NAM-T(-SP) MACX MCR-SL-2NAM-T	2865049 2865489 (2924090) 2865036

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 "MACX (Ex) Termination Carriers" (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 3.5 "System cabling".

3.4 Digital output cards

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
ADV551 (32 channels): 1 TC per card	TC-2KS50-DO32-EX-PR-CS ¹ incl. TC-C-PTB3-SC-SET1	2905199 incl. (2905216)	MACX MCR-EX-SL-SD-21- 25-LP(-SP)	2865492 (2924113)
ADV561 (64 channels): 2 TC per card	incl. TC-C-MAX2-SC-31320000	incl. (2902425)		

¹ This version is based on loop-powered solenoid drivers, which is why the DIN rail connector is not included.

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 3.5 “System cabling” .

3.5 System cabling

FLK 40 cables for analog I/O modules	Order No.
FLK 40-PA/EZ-DR/KS/ 100/YUC	2322786
FLK 40-PA/EZ-DR/KS/ 200/YUC	2314341
FLK 40-PA/EZ-DR/KS/ 300/YUC	2314354
FLK 40-PA/EZ-DR/KS/ 400/YUC	2314367
FLK 40-PA/EZ-DR/KS/ 500/YUC	2321570
FLK 40-PA/EZ-DR/KS/ 600/YUC	2314943
FLK 40-PA/EZ-DR/KS/ 700/YUC	2321583
FLK 40-PA/EZ-DR/KS/ 800/YUC	2314956
FLK 40-PA/EZ-DR/KS/ 900/YUC	2321415
FLK 40-PA/EZ-DR/KS/1000/YUC	2314370
FLK 40-PA/EZ-DR/KS/1500/YUC	2314383
FLK 40-PA/EZ-DR/KS/2000/YUC	2314532
FLK 40-PA/EZ-DR/KS/2500/YUC	2314545
FLK 40-PA/EZ-DR/KS/3000/YUC	2314558

FLK 50 cables for digital I/O modules	Order No.
FLK 50-PA/EZ-DR/KS/ 100/YUC	2900991
FLK 50-PA/EZ-DR/KS/ 200/YUC	2314299
FLK 50-PA/EZ-DR/KS/ 300/YUC	2314309
FLK 50-PA/EZ-DR/KS/ 400/YUC	2314312
FLK 50-PA/EZ-DR/KS/ 500/YUC	2321499
FLK 50-PA/EZ-DR/KS/ 600/YUC	2314927
FLK 50-PA/EZ-DR/KS/ 700/YUC	2321509
FLK 50-PA/EZ-DR/KS/ 800/YUC	2314930
FLK 50-PA/EZ-DR/KS/ 900/YUC	2321512
FLK 50-PA/EZ-DR/KS/1000/YUC	2314325
FLK 50-PA/EZ-DR/KS/1500/YUC	2314338
FLK 50-PA/EZ-DR/KS/2000/YUC	2314503
FLK 50-PA/EZ-DR/KS/2500/YUC	2314516
FLK 50-PA/EZ-DR/KS/3000/YUC	2314529

4 Yokogawa ProSafe-RS system

4.1 Analog input card

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
SAI143	TC-2KS40-AI16-EX-PR-RS incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31320000	2905203 incl. (2905216) incl. (2902425)	MACX MCR-EX-SL-RPSSI-I(-SP)	2865340 (2924016)
			MACX MCR-SL-RPSSI-I	2865955
			MACX MCR-EX-SL-RTD-I(-SP)	2865939 (2924142)
			MACX MCR-SL-RTD-I(-SP)	2865065 (2924317)
			MACX MCR-EX-SL-TC-I(-SP)	2865942 (2865586)
			MACX MCR-SL-TC-I	2924333

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 4.5 “System cabling” .

4.2 Analog output card

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
SAI533	TC-2KS40-AO8-EX-PR-RS incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31320000	2905204 incl. (2905216) incl. (2902425)	MACX MCR-EX-SL-IDSI-I(-SP)	2865405 (2924032)
			MACX MCR-SL-IDSI-I	2865971

Up to eight of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 4.5 “System cabling” .

4.3 Digital input card

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
SDV144	TC-2KS50-DI16-EX-PR-RS incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31320000	2905202 incl. (2905216) incl. (2902425)	MACX MCR-EX-SL-NAM-R	2865434
			MACX MCR-SL-NAM-R(-SP)	2865997 (2924252)
			MACX MCR-EX-SL-NAM-NAM(-SP)	2866006 (2924883)
			MACX MCR-EX-SL-NAM-YO (-SP)	2905723 (2905724)

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 4.5 “System cabling” .

4.4 Digital output cards

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
SDV541	TC-2KS50-DO16-EX-PR-RS incl. TC-C-PTB3-SC-SET1 incl. TC-C-MAX2-SC-31322122	2905678 incl. (2905216) incl. (2904674)	MACX MCR-EX-SL-SD-21-25- LFD(-SP)	2905669 (2905674)

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 4.5 “System cabling”.

I/O modules	Termination Carrier	Order No.	Coupling relay	Order No.
SDV541	TC-2KS50-DO16-ESD-AR-RS	2904113		
	excl. TC-C-PSR3-SC-A10000A23132	2903390	PSR-SCP- 24DC/FSP/2X1/1X2	2986960
	excl. TC-C-PSR3-SC-A10000A23132	2903390	PSR-SCP- 24DC/FSP2/2X1/1X2	2986575
	excl. TC-C-PSR3-SC-A10000A20000	2903389	PSR-SCP- 24DC/FSP/1X1/1X2	2981978
	excl. TC-C-PTSM-50-00000000J1J1	2903388	Connector for unused module slots	

Up to 16 of the coupling relays listed can be used on this Termination Carrier.

For this version of the Termination Carrier, the circuit for redundant feed-in and fault signaling is on the PCB.

The corresponding system cables can be found in Section 4.5 “System cabling”.

I/O modules	Termination Carrier	Order No.	Coupling relay	Order No.
SDV541	TC-2KS50-DO16-F&G-AR-RS	2904112		
	excl. TC-C-PSR3-SC-A100V+A20000	2903391	PSR-SCP- 24DC/ETP/1X1 (PSR-SPP- 24DC/ETP/1X1)	2986711 (2986562)
	excl. TC-C-PCX3-SC-A100V+A20000	2906003	PSR-PC50-1NO-1DO-24DC-SC	2904664

Up to 16 of the coupling relays listed can be used on this Termination Carrier.

For this version of the Termination Carrier, the circuit for redundant feed-in and fault signaling is on the PCB.

The corresponding system cables can be found in Section 4.5 “System cabling”.

4.5 System cabling

FLK 40 cables for analog I/O modules	Order No.
FLK 40-PA/EZ-DR/KS/ 100/YUC	2322786
FLK 40-PA/EZ-DR/KS/ 200/YUC	2314341
FLK 40-PA/EZ-DR/KS/ 300/YUC	2314354
FLK 40-PA/EZ-DR/KS/ 400/YUC	2314367
FLK 40-PA/EZ-DR/KS/ 500/YUC	2321570
FLK 40-PA/EZ-DR/KS/ 600/YUC	2314943
FLK 40-PA/EZ-DR/KS/ 700/YUC	2321583
FLK 40-PA/EZ-DR/KS/ 800/YUC	2314956
FLK 40-PA/EZ-DR/KS/ 900/YUC	2321415
FLK 40-PA/EZ-DR/KS/1000/YUC	2314370
FLK 40-PA/EZ-DR/KS/1500/YUC	2314383
FLK 40-PA/EZ-DR/KS/2000/YUC	2314532
FLK 40-PA/EZ-DR/KS/2500/YUC	2314545
FLK 40-PA/EZ-DR/KS/3000/YUC	2314558

FLK 50 cables for digital I/O modules	Order No.
FLK 50-PA/EZ-DR/KS/ 100/YUC	2900991
FLK 50-PA/EZ-DR/KS/ 200/YUC	2314299
FLK 50-PA/EZ-DR/KS/ 300/YUC	2314309
FLK 50-PA/EZ-DR/KS/ 400/YUC	2314312
FLK 50-PA/EZ-DR/KS/ 500/YUC	2321499
FLK 50-PA/EZ-DR/KS/ 600/YUC	2314927
FLK 50-PA/EZ-DR/KS/ 700/YUC	2321509
FLK 50-PA/EZ-DR/KS/ 800/YUC	2314930
FLK 50-PA/EZ-DR/KS/ 900/YUC	2321512
FLK 50-PA/EZ-DR/KS/1000/YUC	2314325
FLK 50-PA/EZ-DR/KS/1500/YUC	2314338
FLK 50-PA/EZ-DR/KS/2000/YUC	2314503
FLK 50-PA/EZ-DR/KS/2500/YUC	2314516
FLK 50-PA/EZ-DR/KS/3000/YUC	2314529

5 Customer-specific Termination Carriers

5.1 GE Fanuc

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
GE PAC RX7i	TC-D25SUBF-AI16-MP-P-RX7I	2905851	Depending on the application, all single-channel modules from the MINI Analog Pro range can be used.	
	incl. TC-C-PTBP-PT-SET1	incl. (2905915)		
	incl. TC-C-2PRO-PT-05061516	incl. (2905914)		

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The modules from Section 6.1.2 “MINI Analog Pro Termination Carriers” (in their basic version) are required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 5.5 “Accessories for customer-specific Termination Carriers” .

5.2 Yokogawa Stardom TM

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
NFAI143	TC-2KS40-AI16-EX2-PR-CSTM	2905931	MACX MCR-EX-SL-RPSSI-2I(-SP)	2865366 (2924236)
	incl. TC-C-PTB3-SC-SET1	incl. (2905216)	MACX MCR-SL-RPSSI-2I(-SP)	2924825 (2924838)
	incl. TC-C-MAX2-SC-313221221112	incl. (2905966)		

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

The module from Section 6.1.3 “MACX (Ex) Termination Carriers” (in its basic version) is required for feed-in on this Termination Carrier.

The corresponding system cables can be found in Section 5.5 “Accessories for customer-specific Termination Carriers” .

5.3 Honeywell RUSIO

I/O modules	Termination Carrier	Order No.	Signal conditioner	Order No.
FC-RUSIO-3224	TC-D37SUB-ADIO16-EX-A-RUSIO	2904967		
	excl. TC-C-MAX2-SC-31321112	2902426	MACX MCR-EX-SL-RPSSI-I	2865340
	excl. TC-C-MAX2-SC-31321112	2902426	MACX MCR-EX-SL-IDSI-I	2865405
	excl. TC-C-MAX2-SC-31321112	2902426	MACX MCR-EX-SL-NAM-R	2865434
	excl. TC-C-MAX2-SC-31321112	2902426	MACX MCR-EX-SL-NAM-NAM	2866006
	excl. TC-C-MAX2-SC-31320000	2902425	MACX MCR-EX-SL-SD-21-25-LP	2865492
	excl. TC-C-MAX2-SC-31320000	2902425	MACX MCR-EX-SL-SD-23-48-LFD	2924867

Up to 16 of the signal conditioners listed can be used on this Termination Carrier.

For this version of the Termination Carrier, the circuit for redundant feed-in and fault signaling is on the PCB.

The corresponding system cables can be found in Section 5.5 “Accessories for customer-specific Termination Carriers” .

5.4 Schneider Electric

I/O modules	Termination Carrier	Order No.	Coupling relay	Order No.
TRICONEX 3625	TC-EC56F-DO16-ESD-A-TRC	2904679		
	excl. TC-C-PSR3-SC-A10000A23132	2903390	PSR-SCP- 24DC/FSP/2X1/1X2	2986960
	excl. TC-C-PSR3-SC-A10000A23132	2903390	PSR-SCP- 24DC/FSP2/2X1/1X2	2986575
	excl. TC-C-PSR3-SC-A10000A20000	2903389	PSR-SCP- 24DC/FSP/1X1/1X2	2981978
	excl. TC-C-PTSM-50-00000000J1J1	2903388	Connector for unused module slots	

Up to 16 of the coupling relays listed can be used on this Termination Carrier.

For this version of the Termination Carrier, the circuit for redundant feed-in and fault signaling is on the PCB.

The corresponding system cables can be found in Section 5.5 "Accessories for customer-specific Termination Carriers".

5.5 Accessories for customer-specific Termination Carriers

TC-D25SUBF-AI16-MP-P-RX7I (Order No. 2905851)		
The cable version listed here has an open cable end and you can wire the cable yourself.		
Unlike TC-D37SUB-ADIO16-MP-P-UNI (Order No. 2906639), the grounds of all channels are connected.		
System cable, 1 m long, other lengths are available	CABLE-D-25SUB/M/OE/0,25/S/1,0M	2926519

TC-2KS40-AI16-EX2-PR-CSTM (Order No. 2905931)		
System cable, 2 m long, other lengths are available	FLK 40-PA/EZ-DR/KS/ 200/YUC	2314341

TC-D37SUB-ADIO16-EX-A-RUSIO (Order No. 2904967)		
VARIOFACE front adapter, for Honeywell FC-RUSIO-3224	FLKM-PA-D37/HW/C300/SO-HICTB	2902090
System cable, 1 m long, other lengths are available	CABLE-D37SUB/B/B/ 100/KONFEK/S	2305509

TC-EC56F-DO16-ESD-A-TRC (Order No. 2904679)		
This product was developed according to customer specifications. Please contact us if you require the corresponding system cable.		

6 Accessories

6.1 Power and fault signaling modules

6.1.1 MINI Analog Termination Carriers

The supply voltages on the MINI Analog Termination Carriers can be monitored by combining the following two modules.

Description	Type	Order No.	Supplied as standard
Feed-in terminal for the supply voltage at the DIN rail connector	MINI MCR-SL-PTB-FM	2902958	No
Fault monitoring module for evaluating and reporting group errors from the fault monitoring system	MINI MCR-SL-FM-RC-NC	2902961	No

6.1.2 MINI Analog Pro Termination Carriers

The supply voltages on the MINI Analog Pro Termination Carriers can be monitored by combining the following two modules.

Description	Type	Order No.	Supplied as standard
Feed-in terminal for feed-in of the supply voltage at the DIN rail connector	MINI MCR-2-PTB-PT	2902067	No
Fault monitoring module for evaluating and reporting group errors from the fault monitoring system	MINI MCR-2-FM-RC-PT	2904508	No

6.1.3 MACX (Ex) Termination Carriers

The following module can be used to monitor the supply voltages on MACX (Ex) Termination Carriers.

Description	Type	Order No.	Supplied as standard
Power and fault signaling modules for redundant feed-in, which is decoupled from diodes and protected against polarity reversal, and for evaluating and reporting group errors from the fault monitoring system.	TC-MACX-MCR-PTB	2904673	No

6.2 Feed-in cable sets

The feed-in cable sets can be used to establish an electrical connection between the power and/or fault signaling modules and the Termination Carrier PCB. The corresponding cable set is available for every signal conditioner series and is always supplied as standard with the respective Termination Carrier.

Description	Type	Order No.	Supplied as standard
Cable set for the MINI Analog MINI MCR-SL-PTB-FM power module (Order No. 2902958) and MINI MCR-SL-FM-RC-NC fault signaling module (Order No. 2902961)	TC-C-PTB1-AI-SET1	2905217	Yes
Cable set for the MINI Analog Pro MINI MCR-2-PTB-PT power module (Order No. 2902067) and MINI MCR-2-FM-RC-PT fault signaling module (Order No. 2904508)	TC-C-PTBP-PT-SET1	2905915	Yes
Cable set for the MACX Analog Ex TC-MACX-MCR-PTB power and fault signaling module (Order No. 2904673)	TC-C-PTB3-SC-SET1	2905216	Yes

6.3 Signal cable sets

The signal cable sets can be used to establish an electrical connection between the signal conditioners and the Termination Carrier PCB. The corresponding signal cable set is available for every signal conditioner and coupling relay version. For the Termination Carriers for the MINI Analog, MINI Analog Pro, and MACX Ex series, the signal cable sets are always supplied as standard with the respective Termination Carrier. The signal cable set for the coupling relays must be ordered separately in the appropriate quantity for the Termination Carrier.

Description	Type	Order No.	Supplied as standard
Signal transmission for modules from the MINI Analog series. Connection of terminal points 5 and 6 of two adjacent MINI Analog modules to the signal PCB via a 4-pos. PTSM connector.	TC-C-2MIN-AI-05061516	2905224	Yes
Cable set for signal transmission on the termination carrier for modules from the MINI Analog Pro series. Connection of terminal points 5 and 6 of two adjacent MINI Analog Pro modules to the signal PCB via a 4-pos. PTSM connector.	TC-C-2PRO-PT-05061516	2905914	Yes
Cable set for signal transmission on the termination carrier for modules from the MACX Analog Ex series. Connection of terminal points 3.1 and 3.2 (signal transmission) to the signal PCB.	TC-C-MAX2-SC-31320000	2902425	Yes
Cable set for signal transmission on the termination carrier for two-channel modules or double output from the MACX Analog Ex series. Connection of terminal points 3.1 and 3.2 as well as 2.1 and 2.2 (signal transmission) to the signal PCB.	TC-C-MAX2-SC-31322122	2904674	Yes
Cable set for signal transmission and power supply on the Termination Carrier for modules from the MACX Analog Ex series. Connection of terminal points 3.1 and 3.2 as well as 2.1 and 2.2 (signal transmission) as well as 1.1 and 1.2 (power supply) to the signal PCB.	TC-C-MAX2-SC-313221221112	2905966	Yes
Cable set for signal transmission on the termination carrier for coupling relays from the PSR-FSP series. Connection of terminal points A1 and A2 (signal transmission) as well as 31 and 32 (confirmation). Suitable for PSR-SCP-24DC/FSP/2X1/1X2 (Order No. 2986960) and PSR-SCP-24DC/FSP2/2X1/1X2 (Order No. 2986575).	TC-C-PSR3-SC-A10000A23132	2903390	No
Jumper plug , for looping through the confirmation contacts of unused module slots; use on the termination carrier for safety relay modules from the PSR-FSP series.	TC-C-PTSM-50-00000000J1J1	2903388	No

Description	Type	Order No.	Supplied as standard
Cable set for signal transmission on the termination carrier for coupling relays from the PSR-FSP series. Connection of terminal points A1 and A2 (signal transmission) to the signal PCB. Suitable for PSR-SCP-24DC/FSP/1X1/1X2 (Order No. 2981978).	TC-C-PSR3-SC-A10000A20000	2903389	No
Cable set for signal transmission and power supply on the termination carrier for coupling relays from the PSR-ETP series. Connection of terminal points A1 and A2 (signal transmission) as well as V+ (power supply) to the signal PCB. Suitable for PSR-SCP-24DC/ETP/1X1 (Order No. 2986711).	TC-C-PSR3-SC-A100V+A20000	2903391	No
Cable set for signal transmission and power supply on the termination carrier for PSR-PC50-1NO-1DO-24DC-SC (Order No. 2904664). Connection of terminal points A1 and A2 (signal transmission) as well as V+ (power supply) to the signal PCB.	TC-C-PCX3-SC-A100V+A20000	2906003	No

6.4 DIN rail connector (TBUS)

Description	Type	Order No.	Supplied as standard
DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	Yes
DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	2709561	Yes
DIN rail connector (TBUS), 5-pos., for bridging the supply voltage, can be snapped onto NS 35/... DIN rail according to EN 60715	ME 6,2 TBUS-2 1,5/5-ST-3,81 GY	2695439	Yes

6.5 Marking options

Description	Type	Order No.	Supplied as standard
Label, highly flexible, roll, white, unmarked Can be marked using: THERMOMARK ROLL THERMOMARK ROLL X1 THERMOMARK X1.2 Mounting type: adhesive Lettering field size: 108 x 48000 mm	EMLF (108XE)R	0800549	No
Zack marker strip, flat, strip, white, unmarked Can be marked using: plotter Mounting type: snapped into a flat marker groove Lettering field size: 15 x 5.2 mm	ZBF 15	0811202	No

6.6 Connection of the HART multiplexer, mounting the Termination Carrier

Description	Type	Order No.	Supplied as standard
HART multiplexer for the online configuration and diagnostics of HART-enabled field devices as well as the continuous documentation of process variables and states using a PC or management system, for mounting on NS 35/7,5 or NS 32	MACX MCR-S-MUX	2865599	No
The HART transfer board is used to operate the MACX MCR-S-MUX HART multiplexer. The signals from the HART-enabled signal converters are applied to the terminal strip of the transfer board where they are then transmitted to the multiplexer via an FLK.	MACX MCR-S-MUX-TB	2308124	No

A cable is required for the connection between the Termination Carrier and multiplexer.

The cable is available in the following lengths.

Designation	Order No.
FLK 14/EZ-DR/ 30/KONFEK	2295729
FLK 14/EZ-DR/ 50/KONFEK	2288901
FLK 14/EZ-DR/ 100/KONFEK	2288914
FLK 14/EZ-DR/ 150/KONFEK	2288927
FLK 14/EZ-DR/ 200/KONFEK	2288930
FLK 14/EZ-DR/ 250/KONFEK	2288943
FLK 14/EZ-DR/ 300/KONFEK	2288956
FLK 14/EZ-DR/ 350/KONFEK	2288969
FLK 14/EZ-DR/ 400/KONFEK	2288972
FLK 14/EZ-DR/ 450/KONFEK	2290847
FLK 14/EZ-DR/ 500/KONFEK	2290834
FLK 14/EZ-DR/ 550/KONFEK	2290850
FLK 14/EZ-DR/ 600/KONFEK	2290863
FLK 14/EZ-DR/ 800/KONFEK	2299563
FLK 14/EZ-DR/1000/KONFEK	2299576

7 Product nomenclature

Table 1 Example nomenclature

Range	Connector(s)		Card		Product range	PCB features	Controller type
	Quantity	Type	Type	No. of channels			
TC	2	KS40	AI	16	EX	PR	UNI

7.1 Range

Value	Description
TC	Termination Carrier – system cabling for signal conditioners

7.2 Connector(s) – quantity

Value	Description
No value	1 connector
2	2 connectors
4	4 connectors
8	8 connectors

7.3 Connector(s) – type

Value	Description
D25SUB	25-pos. D-SUB connector
D37SUB	37-pos. D-SUB connector
KS40	40-pos. Yokogawa connector
KS50	50-pos. Yokogawa connector
FLK14	14-pos. flat-ribbon cable
FLK50	50-pos. flat-ribbon cable
EC56	56-pos. ELCO connector
HD62SUB	62-pos. high-density D-SUB connector
XC96	96-pos. HIMA connector
Extension F	Used for sockets

7.4 Card – type

Value	Description
AI	Analog input
AO	Analog output
AIO	Analog input and/or output
DI	Digital input
DO	Digital output
DIO	Digital input and/or output
ADIO	Analog and/or digital input and/or output

7.5 Card – number of channels

Value	Description
8	8 channels
16	16 channels
32	32 channels
64	64 channels

7.6 Product range

Value	Description
M	MINI, 1-channel
2M	MINI, 2-channel
M2	MINI, double output
MP	MINI PRO (MINI MCR-2), 1-channel
2MP	MINI PRO (MINI MCR-2), 2-channel
MP2	MINI PRO (MINI MCR-2), double output
MA	MACX, 1-channel
2MA	MACX, 2-channel
MA2	MACX, double output
EX	MACX-Ex, 1-channel
2EX	MACX-Ex, 2-channel
EX2	MACX-Ex, double output

7.7 PCB features

Value	Description
P	Feed-in via additional modules (PTB or PTB + FM)
A	Feed-in via an additional active circuit including undervoltage monitoring at <18 V DC
R	Redundancy
S	HART circuit on the PCB
H	HART circuit on additional board via FLK26 high density

7.8 Controller type

Value	Description
S800	ABB S800
DV	Emerson
C300	Honeywell C300
RUSIO	Honeywell Rusio
FXB	Invensys Foxboro
TRC	Invensys TRICON
TRD	Invensys TRIDENT
S7	Siemens S7-300
S7300S	Siemens S7-300 Safety
S7400	Siemens S7-400
CS	Yokogawa CS3000/CENTUM VP
RS	Yokogawa ProSafeRS
CSTM	Yokogawa Stardom TM
PLC	Phoenix Contact system
UNI	Universal
TSXQ	Schneider Electric ModiconTSX Quantum
AB	AllenBradley ControlLogix
MN	Woodward MicroNet TMR
RX7I	GE Automation GE PAC RX7i
HIMAX	HIMA HIMax