

B-NIMIS MC-I/O ETHERCAT EXTENSIONS

INFORMATION TECHNICAL DATA

B-Nimis MC-I/O				
Description	MC-Bus coupler	MC-BK DI 16/DO16	MC-Extender 2 Port	MC-CAN
Order number	S-01030203-0100	S-01030203-0200	S-01030203-0300	S-01030203-0500
Dimensions WxHxD [mm]	25 x 124 x 83	42 x 120 x 92	25 x 124 x 83	25 x 124 x 83
Weight	approx. 150 g			
Mounting	Rail mounting NS 35/7,5 EN 50022			
Certification	CE (EN 61131-2) / ϵ UL _{us} (UL 61010-2-201)			
Development environment	CODESYS V3 (IEC61131-3)			
Communication interfaces	1x EtherCAT In, RJ45 1x EtherCAT Out, RJ 45 1x EtherCAT, LVDS		2x EtherCAT out, RJ45 1x EtherCAT, LVDS	1x CAN
Protocols	EtherCAT Slave			
Digital I/O's	-	16x digital In 16x digital Out 3ms / 0,5A	-	-
Supply voltage	+24 VDC (-20% / +25%) SELV max. AC voltage component 5% with reverse voltage protection		Via Fieldbus	
Current consumption fieldbus	0,2 A		0,16 A for Out1 0,21 A for Out1+Out2	0,33 A
Supply current fieldbus	max. 3 A (approx. 20 modules)	max. 2 A (approx. 11 Modules)	-	-
Current consumption I/Os	-	Protection depending on I/O load max. 8 A	-	-
Operating conditions transport / storage	Ambient temperature: operational: 0 °C to 50 °C / transport -25 °C to +70 °C Relative humidity: max. 95%, non-condensing			
EMC, protection type				
Emitted interference	EN 61000-6-4, industrial area			
Immunity to interference	EN 61000-6-2, industrial area			
Protection class	III			
Insulation strength	EN 61131-2			
Protection type	IP20			
Vibration	Sinusoidal (EN 60068-2-6) test: Fc; 10 ... 150 Hz, 1 G (Operation mode)			
Shock resistance	15 G (ca. 150 m/s ²), 10 ms duration, half-sine (EN 60068-2-27) test: Ea			

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B-Nimis MC-I/O				
Description	MC-DI 16	MC-DI 32	MC-DO 16	MC-DI 16/ DO 16
Order number	S-01030201-0100	S-01030201-0200	S-01030201-0300	S-01030201-0400
Dimensions WxHxD [mm]	25 x 124 x 92			
Weight	approx. 150 g			
Mounting	Rail mounting NS 35/7,5 EN 50022			
Certification	CE (EN 61131-2) / ζ UL _{us} (UL 61010-2-201)			
Development environment	CODESYS V3 (IEC61131-3)			
Communication interfaces	1x EtherCAT, LVDS			
Protocols	EtherCAT Slave			
Digital I/O's	16x digital In	32x digital In	16x digital Out	16x digital In 16x digital Out
	1 ms	1 ms	0,5 A	1ms / 0,5A
Supply voltage	+24 VDC (-20% / +25%) SELV max. AC voltage component 5% with reverse voltage protection			
Current consumption fieldbus	0,1 A		0,13 A	0,14 A
Current consumption I/Os	-		Protection depending on I/O load max. 12 A	
Operating conditions transport / storage	Ambient temperature: operational: 0 °C to 50 °C / transport -25 °C to +70 °C Relative humidity: max. 95%, non-condensing			
EMC, protection type				
Emitted interference	EN 61000-6-4, industrial area			
Immunity to interference	EN 61000-6-2, industrial area			
Protection class	III			
Insulation strength	EN 61131-2			
Protection type	IP20			
Vibration	Sinusoidal (EN 60068-2-6) test: Fc; 10 ... 150 Hz, 1 G (operation mode)			
Shock resistance	15 G (approx. 150 m/s ²), 10 ms duration, half-sine (EN 60068-2-27) test: Ea			

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B-NIMIS MC-I/O ETHERCAT EXTENSIONS

INFORMATION TECHNICAL DATA

B-Nimis MC-I/O			
Description	MC-I/O D08 Relais NO	MC-AI4-I 12 Bit CoE	MC-AI8-I 12 Bit CoE
Order number	S-01030205-0300	S-01030202-0100	S-01030202-0200
Dimensions WxHxD [mm]	25 x 124 x 92		
Weight	approx. 150 g		
Mounting	Rail mounting NS 35/7,5 EN 50022		
Certification	CE (EN 61131-2) / cUL _{us} (UL 61010-2-201)		
Development environment	CODESYS V3 (IEC61131-3)		
Communication interfaces	1x EtherCAT, LVDS		
Protocols	EtherCAT Slave		
Digital I/O's	8x Relais Out NO (lockable)	-	-
Analog I/O's	-	4x analog In Current 0(4)...20mA Resolution: 12 Bit	8x analog In Current 0(4)...20mA Resolution: 12 Bit
Switching voltage	+24 VDC (-20% / +25%) SELV max. AC voltage component 5% with reverse voltage protection		
Current consumption fieldbus	0,13 A	0,2 A	
Current consumption I/Os	Switching current: Resistive: max. 5.0 A per output Inductive: max. 2 A per output	-	
Operating conditions transport / storage	Ambient temperature: operational: 0 °C to 50 °C / transport -25 °C to +70 °C Relative humidity: max. 95%, non-condensing		
EMC, protection type			
Emitted interference	EN 61000-6-4, industrial area		
Immunity to interference	EN 61000-6-2, industrial area		
Protection class	III		
Insulation strength	EN 61131-2		
Protection type	IP20		
Vibration	Sinusoidal (EN 60068-2-6) test: Fc; 10 ... 150 Hz, 1 G (operation mode)		
Shock resistance	15 G (ca. 150 m/s ²), 10 ms duration, half-sine (EN 60068-2-27) test: Ea		

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B-NIMIS MC-I/O ETHERCAT EXTENSIONS

INFORMATION TECHNICAL DATA

B-Nimis MC-I/O				
Description	MC-AI4/8-U 13 Bit CoE	MC-AI 8/16-U 13 Bit CoE	MC-AI4-Thermo 16 Bit CoE	MC-AI8-Thermo 16 Bit CoE
Order number	S-01030202-0300	S-01030202-0400	S-01030204-0200	S-01030204-0100
Dimensions WxHxD [mm]	25 x 124 x 92			
Weight	approx. 150 g			
Mounting	Rail mounting NS 35/7,5 EN 50022			
Certification	CE (EN 61131-2) / ζ UL _{cs} (UL 61010-2-201)			
Development environment	CODESYS V3 (IEC61131-3)			
Communication interfaces	1x EtherCAT, LVDS			
Protocols	EtherCAT Slave			
Analog I/O's	4x differential or 8x single ended analog In	8x differential or 16x single ended analog In	4x Temperature In	8x Temperature In
Supply voltage	Voltage 0(-10)...10V; -5...5V; -2,5...2,5V Resolution: 13 Bit		PT100 / Ni100 oder PT1000 / Ni1000 or Thermo / Typ J, K or mV Resolution: 16 Bit	
Current consumption fieldbus	0,2 A		0,17 A	
Operating conditions transport / storage	Ambient temperature: operational: 0 °C to 50 °C / transport -25 °C to +70 °C Relative humidity: max. 95%, non-condensing			
EMC, protection type				
Emitted interference	EN 61000-6-4, industrial area			
Immunity to interference	EN 61000-6-2, industrial area			
Protection class	III			
Insulation strength	EN 61131-2			
Protection type	IP20			
Vibration	Sinusoidal (EN 60068-2-6) test: Fc; 10 ... 150 Hz, 1 G (operation mode)			
Shock resistance	15 G (ca. 150 m/s ²), 10 ms duration, half-sine (EN 60068-2-27) test: Ea			

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B-NIMIS MC-I/O ETHERCAT EXTENSIONS

INFORMATION TECHNICAL DATA

B-Nimis MC-I/O		
Description	MC-A04-U/I 16 Bit CoE	OC AI4-U/I 12 Bit CoE
Order number	S-01030202-0500	S-01030202-0600
Dimensions WxHxD [mm]	25 x 124 x 92	
Weight	approx. 150 g	
Mounting	Rail mounting NS 35/7,5 EN 50022	
Certification	CE (EN 61131-2) / cUL_{us} (UL 61010-2-201)	
Development environment	CODESYS V3 (IEC61131-3)	
Communication interfaces	1x EtherCAT, LVDS	
Protocols	EtherCAT Slave	
Safety Protocols	-	Analog data is additionally transmitted via a protected telegram and can thus be used in conjunction with the Berghof Safety PLC in a safety application for safe measured data monitoring.
Analog I/Os	4x universal analog Out	4x analog In
	0(-10)...10V 0(4)...20mA	0(4)..20mA, 0..10V
	Resolution Outputs: 16 Bit	Resolution In: 12 Bit
Supply voltage	+24 VDC (-20% / +25%) SELV max. AC voltage component 5% with reverse voltage protection	
Current consumption Fieldbus	0,15 A	
Operating conditions transport / storage	Ambient temperature: operational: 0 °C to 50 °C / transport -25 °C to +70 °C Relative humidity: max. 95%, non-condensing	
EMC, Protection type		
Emitted interference	EN 61000-6-4, industrial area	
Immunity to interference	EN 61000-6-2, industrial area	
Protection class	III	
Insulation strength	EN 61131-2	
Protection type	IP20	
Vibration	Sinusoidal (EN 60068-2-6) test: Fc; 10 ... 150 Hz, 1 G (operation mode)	
Shock resistance	15 G (ca. 150 m/s ²), 10 ms duration, half-sine (EN 60068-2-27) test: Ea	

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B-NIMIS MC-I/O ETHERCAT EXTENSIONS

INFORMATION TECHNICAL DATA

B-Nimis MC-I/O		
Description	MC-XR01	MC-XR02
Order number	S-01030207-0100	S-01030207-0200
Dimensions WxHxD [mm]	25 x 124 x 92	
Weight	approx. 150 g	
Mounting	Rail mounting NS 35/7,5 EN 50022	
Certification	CE (EN 61131-2) / \checkmark UL _{us} (UL 61010-2-201)	
Development environment	CODESYS V3 (IEC61131-3)	
Communication interfaces	1x EtherCAT, LVDS	
Protocols	EtherCAT Slave	
Digital I/Os	8x digital In or Out (4x capture in) 8x digital In (configurable as up/ down counter or quadratur encoder)	8x digital In or Out (4x capture In) 8x digital In (2x up/down counter and 2x quadratur encoder)
	1ms / 0,5A max. 10 kHz counter frequency per counter In (yields a counting frequency of 40 kHz for quadrature encoders)	
Analog I/Os	4x analog In 4x universal analog In-/Out - 10..10V -20..20mA	- -
	Resolution In: 22 Bit Resolution Out: 16 Bit	-
Supply voltage	+24 VDC (-20% / +25%) SELV max. AC voltage component 5% with reverse voltage protection	
Current consumption fieldbus	0,13 A	
Current consumption I/Os	Protection depending on I/O load max. 12 A	
Operating conditions transport / storage	Ambient temperature: operational: 0 °C to 50 °C / transport -25 °C to +70 °C Relative humidity: max. 95%, non-condensing	
EMC, Protection type		
Emitted interference	EN 61000-6-4, industrial area	
Immunity to interference	EN 61000-6-2, industrial area	
Protection class	III	
Insulation strength	EN 61131-2	
Protection type	IP20	
Vibration	Sinusoidal (EN 60068-2-6) test: Fc; 10 ... 150 Hz, 1 G (operation mode)	
Shock resistance	15 G (ca. 150 m/s ²), 10 ms duration, half-sine (EN 60068-2-27) test: Ea	

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B-NIMIS MC-I/O ETHERCAT EXTENSIONS

INFORMATION TECHNICAL DATA

B-Nimis MC-I/O		
Description	MC-Counter/Posi 2 5V	OC Counter/Encoder
Order number	S-01030206-0100	S-01030206-0200
Dimensions WxHxD [mm]	25 x 124 x 92	
Weight	approx. 150 g	
Mounting	Rail mounting NS 35/7,5 EN 50022	
Certification	CE (EN 61131-2) / μ UL _{us} (UL 61010-2-201)	
Development environment	CODESYS V3 (IEC61131-3)	
Communication interfaces	1x EtherCAT, LVDS	
Protocols	EtherCAT Slave	
Safety Protocols	-	Encoder data is also transmitted via a protected telegram and can thus be used in conjunction with the Berghof Safety PLC in a safety application for speed monitoring to implement safe position (SP) and safe speed (SLS).
Digital I/Os	8x digital In 2x digital Out 2x Counter In (A, B, Ref)	2 x Counter In (A, B, Z/Ref, CLK, DAT)
Analog I/Os	1ms 2,0A Encodertype: RS422, 24 VDC max. 200 KHz	Encodertype: 2x RS422, 32 Bit, max. 5 Mhz 2x 5/24 VDC, 32 Bit, max. 400 kHz 2x Six-Step, 32 Bit, max. 8 kHz 2x HTL/TTL, 32 Bit, max. 400 kHz (channel 0,3) 4x HTL/TTL, 32 Bit, max. 5 kHz (channel 1,2,4,5) 2x SSI, 18..32 Bit, 80..1000 Kbit/s 2x EnDat 2.1, 16..40 Bit, 100..2000 kHz
Supply voltage	+24 VDC (-20% / +25%) SELV max. AC voltage component 5% with reverse voltage protection	
Current consumption Fieldbus	0,3 A	0,1 A
Current consumption I/Os	Protection depending on I/O load max. 4 A	Encoder supply: 5V / 0.15 A
Operating conditions transport / storage	Ambient temperature: operational: 0 °C to 50 °C / transport -25 °C to +70 °C Relative humidity: max. 95%, non-condensing	
EMC, Protection type		
Emitted interference	EN 61000-6-4, industrial area	
Immunity to interference	EN 61000-6-2, industrial area	
Protection class	III	
Insulation strength	EN 61131-2	
Protection type	IP20	
Vibration	Sinusoidal (EN 60068-2-6) test: Fc; 10 ... 150 Hz, 1 G (operation mode)	
Schock resistance	15 G (ca. 150 m/s ²), 10 ms duration, half-sine (EN 60068-2-27) test: Ea	