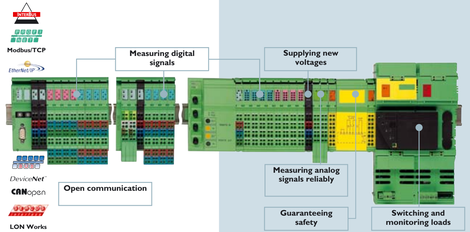
Inline Modular and Inline Block IO

Inline Modular, as its name indicates, offers a high degree of modularity for individual automation solutions. The number of functions required can be put together to suit requirements. And the major automation functions for control cabinet installation are united in one system kit.

This automation kit has now received a new addition: Inline Block IO. With the coupler already integrated in the 16 or 32-channel digital block modules.

Inline Modular and Inline Block IO are open to all common fieldbus systems.



Partners

Bürkert
Pneumatic terminals
Bürkert GmbH & CO. KG
Christian-Bürkert-Straße 13-17
74653 Ingelfingen, Germany
Phone: ++49/79 40/10-0
Fax: ++49/79 40/10-361

Deutschmann
cam controller
Deutschmann Automation GmbH
Max-Planck-Straße 21
65520 Bad Camberg, Germany
Phone: ++49/64 34/94 33-0
Fax: ++49/64 34/94 33-43

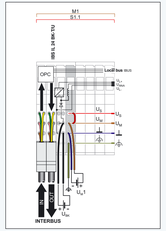
riese
riese safety relay
riese electronic gmbh
Junghansstraße 16
72160 Horb am Neckar, Germany
Phone: ++49/74 51/55 01-0
Fax: ++49/74 51/55 01-70

Rittal
Terminal boxes
Rittal-Werk
Rudolf Loh GmbH & Co. KG
PO Box 1662
35726 Herborn, Germany
Phone: ++49/27 72/50 5-0

Sysmik
ICS controller for LonWorks®
SysMik GmbH Dresden
Bertolt-Brecht-Allee 24
01309 Dresden, Germany
Phone: ++49/3 51/4 33 58-0
Fax: ++49/3 51/4 33 58-29

The jumpering concept of Inline Modular using the example of INTERBUS

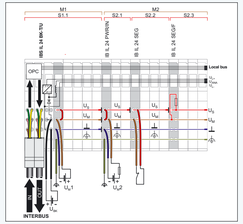
The automatic cross wiring (jumpering) within an Inline station distinguishes between the communications power (U_{BC}; U_L; U_{ANA}) and the I/O supply (U_M and U_S). Particularly in the case of analog terminals, communications and I/O power is supplied by U_{ANA}.



U_{BC} : Supply voltage of the bus coupler
U_L : Logic (communications) voltage
U_{ANA} Voltage supply for analog modules
U_M : Supply voltage of the main circuit
U_S : Supply voltage of the segment circuit

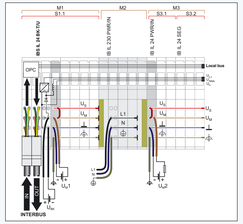
Bus coupler supply and provision of main voltage

Supply voltage U_{BC} is connected to the bus coupler. The voltages for logic circuit U_L and the power supply to the terminals for analog signals U_{ANA} are generated internally from this bus coupler power supply.
The 24 V voltage supply for main circuit U_M is also fed in at the bus coupler, in this case IBS IL 24 BK-T/U.
The power supply for the down-circuit Inline terminals is provided by segment voltage U_S. This voltage is tapped from the main power supply U_M at the bus coupler by means of a jumper or a switch.



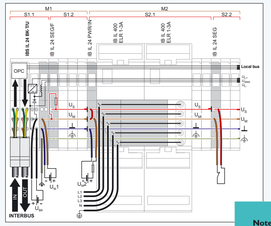
The supply concept: Design of main and segment circuits

The voltage supply for main circuit U_M is fed in with the aid of the Inline **power terminal**. This means that electrically isolated I/O circuits can be configured within an Inline station. Various types of power terminals are available. The Inline **segment terminal** allows several segment circuits to be created within an I/O circuit. Various segment terminals are available for creating different protected circuits or safety circuits within a station.
The signal and initiator voltages for digital I/Os are picked up from the segment circuit.



Structure of an AC area

A 230 V AC area must be limited by a 230 V AC power terminal and by an AC terminal. Both terminals are combined in one item. Suitable input/output terminals for this area can be used between the terminals.
Even in the case of relay terminals, which work without a power terminal, spacer terminals (see accessories) must be used for AC voltages to isolate them from the 24 V environment. An AC voltage range (120/230 V AC) must always be grounded by its own PE (**P**rotected **E**arth).



Integration of power-level terminals in an Inline station

Inline power-level terminals can be arranged on an Inline station just as easily as the digital and analog I/O terminals.
A power bus is opened via the power connector on the European style motor starter. If the Inline station contains other power-level terminals, the 400 V mains voltage is routed via a pluggable power bridge. The maximum routing current is 20 A.

Note:

Configuration and wiring concept are illustrated here as an example for connection to INTERBUS.

Detailed information on the Inline system and connection to other fieldbuses can be found in the Inline data sheets or system manual on the Internet at:
www.eshop.phoenixcontact.com

DeviceNet · CANopen · ModbusTCP · EtherNet/IP · LON Works

The 2 MBaud versions from Inline Modular

Bus couplers

Direct connection with connector; communications power U_L = 2 A
IBS IL 24 BK-T/U-2MBD-PAC 2862000

Connection with D-SUB connector
IBS IL 24 BK-DSUB-2MBD-PAC 2862123

With fiber optic connection; **IBS IL 24 BK-LK/HS-2MBD-PAC** 2862068

FO cable exit 45°
IBS IL 24 BK-LK/45-2MBD-PAC 2862220

With INTERBUS remote bus branch and PD connection
IBS IL 24 BK-RB-LK-2MBD-PAC 2862026

With INTERBUS remote bus branch
IBS IL 24 RB-T-2MBD-PAC 2861962

Digital input terminals

Channels		
1		
2	2 inputs, 24 V DC, 4-conductor connection, width 12.2 mm	**IB IL 24 DI 2-2MBD-PAC** 2861713
4		
8	8 inputs, 24 V DC, 4-conductor connection, width 48.8 mm	**IB IL 24 DI 8-2MBD-PAC** 2861690
	8 inputs, 24 V DC, 4-conductor connection, individually numbered, width 48.8 mm	**IB IL 24 DI 8-2MBD-PAC/SN** 2879913
16	16 inputs, 24 V DC, 3-conductor connection, width 48.8 mm	**IB IL 24 DI 16-2MBD-PAC** 2861959
	16 inputs, 24 V DC, 500 mA, 3-cond. connection, individually numbered, width 48.8 mm	**IB IL 24 DI 16-2MBD-PAC/SN** 2879120

Digital output terminals

1 relay PDT contacts, 5 - 253 V AC, 3 A, gold contacts, for switching lamp loads, width 12.2 mm
IB IL 24/230 DOR/1W-2MBD-PAC 2862110

2 outputs, 24 V DC, 2 A, 4-conductor connection, width 12.2 mm
IB IL 24 DO 2-2A-2MBD-PAC 2861700

4 outputs, 24 V DC, 500 mA, 3-conductor connection, width 48.8 mm
IB IL 24 DO 4-2MBD-PAC 2861988

4 relay PDT contacts, 5 - 253 V AC, 3 A, gold contacts, width 48.8 mm
IB IL 24/230 DOR/4W-2MBD-PAC 2862039

8 outputs, 24 V DC, 500 mA, 4-conductor connection, width 48.8 mm
IB IL 24 DO 8-2MBD-PAC 2861687

8 outputs, 24 V DC, 500 mA, 4-cond. connection, individually numbered, width 48.8 mm
IB IL 24 DO 8-2MBD-PAC/SN 2870227

16 outputs, 24 V DC, 500 mA, 3-conductor connection, width 48.8 mm
IB IL 24 DO 16-2MBD-PAC 2862013

16 outputs, 24 V DC, 500 mA, 3-cond.connection, individually numbered, width 48.8 mm
IB IL 24 DO 16-2MBD-PAC/SN 2878324

Analog input terminals

2 inputs for stretch gauges 16 bit, width 48.8 mm
IB IL SGI 2/F-2MBD-PAC 2878735

4/8 inputs for resistance sensors 16 bit, width 48.8 mm
IB IL TEMP 4/8 RTD-2MBD-PAC 2863892

4 differential inputs with initiator supply, 0-20 mA, 4-20 mA, ± 20 mA, 0-10 V, ± 10 V, 0-5 V, ± 5 V, bus synchronous, 16 bit, width 48.8 mm
IB IL AI 4/EF-2MBD-PAC 2878641

8 inputs, 0-20 mA, 4-20 mA, ± 20 mA, 0-40 mA, ± 40 mA, 0-5 V, ± 5 V, 0-10 V, ± 10 V, 0-25 V, ± 25 V, 0-50 V, multiplex mode, 16 bit, width 48.8 mm
IB IL AI 8/SF-2MBD-PAC 2862042

Analog output terminals

2 outputs, 0-20 mA, 4-20 mA, 0-10 V, 16 bit, width 48.8 mm
IB IL AO 2/SF-2MBD-PAC 2862194

4/8 outputs, width 48.8 mm
IB IL AO 4/8/UBP-2MBD-PAC 2878502

Power-level terminals

IB IL 400 ELR 1-3A-2MBD 2855525
IB IL 400 ELR R-3A-2MBD 2855130
IB IL 400 MLR 1-3A-2MBD 2855428
IB IL 24 TC-2MBD 2855224

Communication and function terminals

Function	
Serial interface	1 RS-232 type serial input and output channel, width 24.4 mm **IB IL RS 232-2MBD-PAC** 2862084
	1 RS-485/422 type serial input and output channel, width 24.4 mm **IB IL RS 485/422-2MBD-PAC** 2862097
	1 RS-485/422 type serial input and output channel, process data communication, width 24.4mm **IB IL RS 485/422-PNT-2MBD-PAC** 2878887
Counter	1 counter input, 1 control input, 1 output, width 24.4 mm **IB IL CNT-2MBD-PAC** 2862071

Power and segment terminals

Function	
Power terminals (for supplying the I/O voltage)	With fuse and diagnostics (U_M, fuse), 24 V DC, (U_M, U_S), width 12.2 mm **IB IL 24 PWR IN/SF-O-2MBD-PAC** 2863821
	With fuse and diagnostics **IB IL 24 PWR IN/2F-DF-2MBD-PAC** 2863834
Segment terminals (for segmenting the I/O voltage)	With additional diagnostics, width 12.2 mm **IB IL 24 SEG/F-O-2MBD-PAC** 2861946
	With electronic fusing and diagnostics, 24 V DC, 2.5 A, width 12.2 mm **IB IL 24 SEG-ELF-2MBD-PAC** 2863847

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Phone

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- ☐ Catalog **PLUSCON** Industrial Plug Connectors
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- ☐ Supplement Catalog

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INNB 1351507/11.11.2005-04

PHOENIX CONTACT
INSPIRING INNOVATIONS

Overview Inline Modular – Flexible and expandable

Bus system

Bus couplers

Profinet IO device functions, connection via RJ45 connector
FL IL 24 BK-PN-PAC 2878816

Ethernet/IP-capable, BootP, SNMP, Webserver, web-based management, connection via RJ45 connector
FL IL 24 BK-ETH/IP-PAC 2863986

Http, TFTP, BootP, SNMP, web-based management, Modbus/TCP-capable, DDI support, connection via RJ45 connector
FL IL 24 BK-B-PAC 2862327

8 inputs, 24 V DC, 4 outputs, 500 mA, http, TFTP, BootP configurable, Modbus/TCP-capable, firmware update capable, integrated 3-port switch, connection via RJ45 connector
IL ETH BK DI8 DO4-PAC 2703981

Standard, direct connection with connector, communications power: U_L + 0.7 A
IL IB BK-PAC 2863070

Direct connection with connector, communications power: U_L + 2 A Incl. branch bus terminal support
IBS IL BK-TIU-PAC 2861580

Connection with D-SUB connector
IBS IL 24 BK-DSUB-PAC 2861593

With fiber optic connection
IBS IL 24 BK-LK-PAC 2861218

FO cable exit 45°
IBS IL 24 BK-LK/45-PAC 2862165

With INTERBUS remote bus branch
IBS IL 24 BK RB-LK-PAC 2861506

16 inputs, 24 V DC, 16 outputs 500 mA, connectors numbered
IBS IL 24 BK DIO 16/16 2742586

Connectors numbered individually
IBS IL 24 BK DIO 16/16/SN 2863669

8 inputs, 24 V DC, 8 outputs 500 mA, connection via D-SUB connector
IL PB BK DI8 DO8-PAC 2878926

16 inputs, 24 V DC, 16 outputs 500 mA, connectors numbered
PB IL 24 BK DIO 16/16 2742638

Connectors numbered individually
PB IL 24 BK-DIO 16/16/SN 2863672

Connection with TWIN COMBICON connector, incl. CLIPFIX 35 and clamp
IL DN BK3-PAC 2718785

Connection with TWIN COMBICON connector, incl. two CLIPFIX 35 and clamps
IL CAN BK-TC-PAC 2718701

Connection via fiber optics, incl. two CLIPFIX 35 and clamps
IL SC BK-PAC 2878719

Point-to-point transmission of max. 512 I/Os over 2-wire conductors up to max. 12 km
IB IL 24 MUX MA-PAC 2861205

Field multiplexer
MUX

Digital input terminals

Channels		
1	1 input, 120 V AC, 3-conductor connection, width 12.2 mm **IB IL 120 DI 1-PAC**	2861917
	1 input, 230 V AC, 3-conductor connection, width 12.2 mm **IB IL 230 DI 1-PAC**	2861548
2	2 inputs, 24 V DC, 4-conductor connection, width 12.2 mm **IB IL 24 DI 2-PAC**	2861470
	2 inputs, 24 V DC, negative (npn) wired, width 12.2 mm **IB IL 24 DI 2-NPN-PAC**	2861483
	2 inputs, 24 V DC, short circuit proof, initiator supply, extended diagnostics, width 12.2 mm **IB IL 24 EDI 2-PAC**	2861629
	2 Desina diagnostics inputs, width 12.2 mm **IB IL 24 EDI 2-DESINA-PAC**	2861522
4	4 inputs, 24 V DC, 3-conductor connection, width 12.2 mm **IB IL 24 DI 4-PAC**	2861234
8	8 inputs, 24 V DC, 4-conductor connection, width 48.8 mm **IB IL 24 DI 8-PAC**	2861247
	8 inputs, 24 V, DC, EN 61131-2/Type 2 input, width 48.8 mm **IB IL 24 DI 8/T2-PAC**	2862204
	8 inputs, 24 V DC, 4-conductor connection, individually numbered, width 48.8 mm **IB IL 24 DI 8-PAC/SN**	2862932
16	16 inputs, 24 V DC, 3-conductor connection, width 48.8 mm **IB IL 24 DI 16-PAC**	2861250
	16 inputs, 24 V DC, 3-conductor connection, negative (npn) wired, width 48.8 mm **IB IL 24 DI 16-NPN-PAC**	2863520
	16 inputs, 24 V DC, 3-conductor connection, individually numbered, width 48.8 mm **IB IL 24 DI 16-PAC/SN**	2862961
32	32 inputs, 24 V DC, 1-conductor connection, width 48.8 mm **IB IL 24 DI 32/HD-PAC**	2862835
	Negative (npn) wired **IB IL 24 DI 32/HD-NPN-PAC**	2878243
Other	Distance clips for use with the relay output terminals, width 12.2 mm each **IB IL DOR LH/SET-PAC**	2861645

Digital output terminals

Channels		
1	1 output, 12 - 253 V AC, 500 mA, 3-conductor connection, width 12.2 mm **IB IL DO 1 AC-PAC**	2861920
	1 relay PDT contact, 5 - 253 V AC, 3 A, gold contacts, for switching lamp loads, width 12.2 mm **IB IL 24/230 DOR1/W-PAC**	2861881
	1 relay PDT contact, 5 - 253 V AC, 2.6 A, AgSnO2 contacts, for switching inductive and capacitive loads, width 12.2 mm **IB IL 24/230 DOR1/W-PC-PAC**	2862178
2	2 outputs, 24 V DC, 500 mA, 4-conductor connection, width 12.2 mm **IB IL 24 DO 2-PAC**	2861470
	2 outputs, 24 V DC, 2 A, 4-conductor connection, width 12.2 mm **IB IL 24 DO 2-2A-PAC**	2861263
	2 outputs, 24 V DC, 500 mA, npn-wired, width 12.2 mm **IB IL 24 DO 2-NPN-PAC**	2861496
	2 outputs, 24 V DC, 500 mA, parameterizable output behavior, width 12.2 mm **IB IL 24 EDO 2-PAC**	2861616
	2 relay PDT contacts, 5-50 V AC, 5-120 V AC, 2 A, width 12.2 mm **IB IL 24/48 DOR2/W-PAC**	2863119
4	4 outputs, 24 V DC, 500 mA, 3-conductor connection, width 12.2 mm **IB IL 24 DO 4-PAC**	2861276
	4 outputs, 12-253 V AC, 1 A, 3-conductor connection, width 48.8 mm **IB IL 230 DO 4-PAC**	2861658
	4 relay PDT contacts, 5 - 253 V AC, 3 A, gold contacts, width 48.8 mm **IB IL 24/230 DOR/W-PAC**	2861878
	4 relay PDT contacts, 5 - 253 V AC, 3 A, AgSnO2 contacts, width 48.8 mm **IB IL 24/230 DOR/W-PC-PAC**	2862181
8	8 outputs, 24 V DC, 500 mA, 4-conductor connection, width 48.8 mm **IB IL 24 DO 8-PAC**	2861289
	8 outputs, 24 V DC, 2 A, 4-conductor connection, width 48.8 mm **IB IL 24 DO 8-2A-PAC**	2861603
	8 outputs, 24 V DC, 4-conductor connection, negative (npn) wired, width 48.8 mm **IB IL 24 DO 8-NPN-PAC**	2863546
	8 outputs, 24 V DC, 500 mA, 4-cond connection, individually numbered, width 48.8 mm **IB IL 24 DO 8-PAC/SN**	2862945
16	16 outputs, 24 V DC, 500 mA, 3-conductor connection, width 48.8 mm **IB IL 24 DO 16-PAC**	2861292
	16 outputs, 24 V DC, 500 mA, 3-conductor connection, individually numbered, width 48.8 mm **IB IL 24 DO 16-PAC/SN**	2862961
32	32 outputs, 24 V DC, 1-conductor connection, width 48.8 mm **IB IL 24 DO 32/HD-PAC**	2862822
	Negative (npn) wired **IB IL 24 DO 32/HD-NPN-PAC**	2878240
Other	Distance clips for use with the relay output terminals, width 12.2 mm each **IB IL DOR LH/SET-PAC**	2861645

Analog input terminals

Channels		
2	2 inputs, 0/4 mA - 4.03 mA, ± 20 mA, 0-10 V, ± 10 V, 16 bit, width 12.2 mm **IB IL AI 2/SF-PAC**	2861302
	2 inputs with higher 3 dB base frequency at 230 Hz, 16 bit, width 12.2 mm **IB IL AI 2/SF-230-PAC**	2861577
	2 inputs, preset to 4-20 mA (default), 16 bit, width 12.2 mm **IB IL AI 2/4-20-PAC**	2862217
	2 inputs for resistance sensors, 16 bit, width 12.2 mm **IB IL TEMP 2 RTD-PAC**	2861328
	2 inputs for thermocouples, 16 bit, width 12.2 mm **IB IL TEMP 2 UTH-PAC**	2861386
	2 inputs for HART-capable sensors, 16 bit, width 48.8 mm **IB IL AI 2-HART-PAC**	2862149
	2 inputs for stretch gauges, 16 bit, width 48.8 mm **IB IL SGI 2/F-PAC**	2878638
	6 inputs for resistance thermometers, total current measurement of the heating elements, 16 bit, width 48.8 mm **IB IL TEMP 6 RTD HEI 1 DO 1-PAC**	2819684
	4/8 inputs for resistance sensors, 16 bit, width 48.8 mm **IB IL TEMP 4/8 RTD-PAC**	2863915
	4 differential inputs with initiator supply, 0-20 mA, 4-20 mA, ± 20 mA, 0-10 V, ± 10 V, 0-5 V, ± 5 V, bus synchronous, 16 bit, width 48.8 mm **IB IL AI 4/DIF-PAC**	2878447
	8 inputs, 0/4 mA - 4.03 mA, ± 20 mA, 0-40 mA, < 40 mA, 0-5 V, ± 5 V, 0-10 V, > 10 V, 0-25 V, > 25 V, 0-50 V, multiplex mode, 16 bit, width 48.8 mm **IB IL AI 8/SF-PAC**	2861412
	8 inputs with initiator supply, 0-20 mA, 4-20 mA, ± 20 mA, 0-40 mA, < 40 mA, multiplex mode, 16 bit, width 48.8 mm **IB IL AI 8/IS-PAC**	2861651
	8 inputs for thermocouples, total current measurement of the heating elements, 16 bit, width 48.8 mm **IB IL TEMP 8 UTH HEI 1 DO 8**	2819697
	Accessories for UTH terminal blocks Software tool for measuring section calibration **IB UTH CAL SWT**	2860756

Analog output terminals

Channels		
2	1 output, 0-20 mA, 4-20 mA, 0-10 V, 16 bit, width 24.4 mm **IB IL AO 1/SF-PAC**	2861315
	1 output, 0-10 V, 16 bit, width 12.2 mm **IB IL AO 1/US/F-PAC**	2861399
	2 outputs, 0-20 mA, 4-20 mA, 0-10 V, 16 bit, width 48.8 mm **IB IL AO 2/SF-PAC**	2863083
	2 outputs, 0-10 V, ±10 V, 16 bit, width 12.2 mm **IB IL AO 2/US/F-PAC**	2861467
	4/8 outputs, 0-5 V, ±5 V, 0-10 V, ±10 V, 16 bit, width 48.8 mm **IB IL AO 4/8/US/BP-PAC**	2878036

Machine Edition (ME)

Channels		
4	4 inputs, 24 V DC, 3-conductor connection, short connector, width 12.2 mm, 4 pcs. per package **IB IL 24 DI 4-ME**	2863928
	4 outputs, 24 V DC, 500 mA, 3-conductor connection, short connector, width 12.2 mm, 4 pcs. per package **IB IL 24 DO 4-ME**	2863931
2	2 inputs, 0-20 mA, 4-20 mA, ± 20 mA, 0-10 V, ± 10 V, 12 bit, without shield connector, width 12.2 mm **IB IL AI 2/SF-ME**	2863944
	2 outputs, 0-10 V, ± 10 V, 12 bit, without shield connection, width 12.2 mm **IB IL AO 2/US/BP-ME**	2863957

Communication terminals

Function		
Branch	INTERBUS remote bus branch, width 12.2 mm **IBS IL 24 RB T-PAC**	2861441
	INTERBUS-Loop 2, width 48.8 mm **IB IL 24 L2-PAC**	2861425
Installation ring terminal	For max. 32 building installation ring devices, width 12.2 mm **IB IL 24 FB-PAC**	2861726
Fieldline branch	Fieldline bus terminal, width 12.2 mm **IB IL 24 FLM-PAC**	2736963
Serial interface	1 RS-232 bus serial input and output channel, width 24.4 mm **IB IL RS 232-PAC**	2861357
	1 RS-232 type serial input and output channel, process data communication, width 24.4 mm **IB IL RS 232-PRO-PAC**	2878722
	1 RS-485/422 type serial input and output channel, width 24.4 mm **IB IL RS 485/422-PAC**	2861933
	1 RS-485/422 type serial input and output channel, process data communication, width 24.4 mm **IB IL RS 485/422-PRO-PAC**	2863627
AS-i master	Inline/AS-i master for INTERBUS systems, with 69.2 mm **ASI MA IB IL**	2741228
	Inline/AS-i master, universal for all bus couplers, width 69.2 mm **ASI MA IL UNI**	2736628

Power-level terminals

Function		
Direct starter (Asynchronous motor)	Electromechanical, up to 3.7 KW / 400 V AC, width 63 mm **IL 400 MLR 1-8A**	2727365
	Electronic, up to 1.5 KW / 400 V AC, width 63 mm **IL 400 ELR 1-3A**	2727372
	Electronic, up to 1.5 KW / 400 V AC, width 63 mm **IL 400 ELR R-3A**	2727378
Reversing starter (Asynchronous motor)	Electronic motor PTC thermistors, width 12.2 mm **IB IL 24 TC-PAC**	2861360
Accessories Power-level terminals	Rotary operator panel **IBS HVO**	2836052
	Brake modules **IB IL 400 BR** **IB IL 24 BR/DC**	2727394 2742036
	Power connector **IL 400 CN-PWR-IN**	2836078
	Cover **IB IL 400 CN-COV**	2860947
	Power bridge **IL 400 CN-BRG**	2836081
	Motor circuit connector **GMVSTBW 2,5** **HVI-6-ST-7,62 NZIL**	1803956 1893957
Drive controller (DC motor)	Servo amplifier for DC motor with brushes, width 48.8 mm **IL DC AR 48/10A**	2819286
	Servo amplifier for DC motor with or without multiplexer, width 97.6 mm **IL EC AR 48/10A-PAC**	2819587
Safety	Safe disconnection of the 24 V U_S up to category 4 in acc. with EN 954, width 73 mm **IL SAFE 1-PAC**	2861564
	Safe disconnection of the 400 V AC up to category 4 in acc. with EN 954, width 63 mm **IL 400 SAFE 2**	2740795
	Power connector IB IL 400 CN-PWR-IN (accessories, power-level terminals)	

Open and closed-loop control

Function		
Programmable functions	CPU for modular µ controller systems, width 110 mm **IB IL 332-128-PAC** **IB IL 332-256-PAC**	2861739 2861810
	Controller board with INTERBUS interface, programmable with PC WORX, width 110 mm **ILC 200 IB-PAC**	2862288
	Also with Ethernet interface, width 157 mm **ILC 350 ETH**	2737203
	Controller board without bus terminal module, programmable with PC WORX, width 110 mm **ILC 200 UNI-PAC**	2862291
	Single axis point-to-point controller for incremental encoders with SSI signal, width 48.8 mm **IB IL SSI-PAC**	2861865
	Single axis point-to-point controller for incremental encoders, width 48.8 mm **IB IL INC-PAC**	2861849
	For modular multiple axis point-to-point controllers, width 110 mm **IB IL POS 200-PAC**	2861823
	Reads positions from incremental / SSI encoders, width 24.4 mm / 12.2 mm **IB IL INC-IN-PAC** **IB IL SSI-IN-PAC**	2861755 2819574
	Reads positions from linear measuring systems (magneto-restrictive), width 12.2 mm **IB IL INP/UL/SE-IN-PAC**	2861768
	Pulse with modulation, 2 channels, width 24.4 mm **IB IL PWM/2-PAC**	2861632
Temperature control	**Compact temperature controller** 4-channel thermocouple / resistance thermometer, width 48.8 mm **IB IL TEMPCON UTH-PAC** **IB IL TEMPCON RTD-PAC**	2861807 2861771
	Modular temperature controller, can be expanded 2- 20 channels, thermocouple / resistance thermometer **IB IL TEMPCON 300 UTH-PAC** **IB IL TEMPCON 300 RTD-PAC**	2819671 2819668
Counter	2 counters, 24 V DC, 1 control input, 1 output, width 24.4 mm **IB IL CNT-PAC**	2861652

Function	Voltage	
Power terminals (for supplying the I/O voltage)	24 V DC	24 V DC, width 12.2 mm **IB IL 24 PWR IN-PAC** 2861331 With fuse, 24 V DC, U_{M}/U_{S}, width 12.2 mm **IB IL 24 PWR IN/F-PAC** 2862136 With additional diagnostics (I_{M}, fuse) **IB IL 24 PWR IN/F-D-PAC** 2862152 With fuse and diagnostics **IB IL 24 PWR IN/2F-DP-PAC** 2863779
	120 V AC	120 V AC, width 12.2 mm **IB IL 120 PWR IN-PAC** 2861454
	230 V AC	230 V AC, width 12.2 mm **IB IL 230 PWR IN-PAC** 2861535
Segment terminals (for segmenting the I/O voltage)	24 V DC	24 V DC, width 12.2 mm **IB IL 24 SEG-PAC** 2861344 With fuse, 24 V DC, width 12.2 mm **IB IL 24 SEG/F-PAC** 2861373 With additional diagnostics, width 12.2 mm **IB IL 24 SEG/F-D-PAC** 2861904 With electronic fusing and diagnostics, 24 V DC, 2.5 A, width 12.2 mm **IB IL 24 SEG-ELF-PAC** 2861409
Boost terminals (for boosting the communications power and I/O voltage)	24 V DC	(U_L, U_{ANA}, U_M, U_S), width 48.8 mm **IB IL 24 PWR IN/B-PAC** 2861674
Power terminal (for supplying stand-alone stations with e.g. ILC 200 UNI)		(U_L, U_{ANA}, U_M, U_S), width 48.8 mm **IB IL 24 PWR IN/PS-PAC** 2863135
Bridge terminal blocks (e.g. for power distribution in combination with connection systems)	GND	8 contacts, GND, width 12.2 mm **IB IL PD GND-PAC** 2862990
	24 V DC	8 contacts, 24 V DC from U_S, width 12.2 mm **IB IL PD 24V-PAC** 2862987

Power and segment terminals

Overview Inline Block IO – Inexpensive and compact

Digital input

Bus system	Channels	
INTERBUS	16	16 inputs, 24 V DC, 2 and 3-conductor connection, bus connection with Inline connector, width 48.8 mm **ILB 24 DI16** Bus connection via D-SUB connector **ILB IB 24 DI16-DSUB** 2862230 2878421
	32	32 inputs, 24 V DC, 2 and 3-conductor connection, bus connection with Inline connector, width 156 mm **ILB IB 24 DI32** 2862343
PROFIBUS	16	16 inputs, 24 V DC, 2 and 3-conductor connection, bus connection with Inline connector, width 48.8 mm **ILB PB 24 DI16** With D-SUB connector **ILB PB 24 DI16-DSUB** 2862356 2878528
	32	32 inputs, 24 V DC, 2 and 3-conductor connection, bus connection with Inline connector, width 156 mm **ILB PB 24 DI32** 2862369
DeviceNet	32	32 inputs, 24 V DC, 2 and 3-conductor connection, bus connection with D-SUB connector, width 156 mm **ILB PB 24 DI32** 2862398
CANopen	32	
Modbus/TCP	32	

Digital output

Bus system	Channels	
INTERBUS	16	16 inputs, 24 V DC, 2 and 3-conductor connection, bus connection with Inline connector, width 48.8 mm **ILB 24 DO16** Bus connection via D-SUB connector **ILB IB 24 DO16-DSUB** 2862356 2878528
	32	32 inputs, 24 V DC, 500 mA, 2 and 3-conductor connection, bus connection with Inline connector, width 156 mm **ILB IB 24 DO32** 2862369
PROFIBUS	16	16 inputs, 24 V DC, 500 mA, 2 and 3-conductor connection, bus connection with Inline connector, width 48.8 mm **ILB PB 24 DO16** With D-SUB connector **ILB PB 24 DO16-DSUB** 2862356 2878528
	32	32 inputs, 24 V DC, 500 mA, 2 and 3-conductor connection, bus connection with D-SUB connector, width 156 mm **ILB PB 24 DO32** 2862408
DeviceNet	32	
CANopen	32	
Modbus/TCP	32	

Digital input and output

Bus system	Channels	
INTERBUS	8/8	8 inputs and 8 outputs, 500 mA, 24 V DC, 2 and 3-conductor connection, bus connection with Inline connector, width 48.8 mm **ILB IB 24 DI 8 DO 8** 2862372
	16/16	16 inputs and 16 outputs, 500 mA, 24 V DC, 2 and 3-conductor connection, bus connection with Inline connector, width 156 mm **ILB IB 24 DI16 DO16** 2862385 Bus connection via D-SUB connector **ILB IB 24 DI16 DO16-DSUB** 2878625
PROFIBUS	8/8	8/16 inputs, 24 V DC, 2 and 3-conductor connection, 8 outputs, 24 V DC, 500 mA, 3-conductor connection via D-SUB connector, width 95 mm **ILB PB 24 DI8 DIO8** 2863562
	16/16	16 inputs and 16 outputs, 500 mA, 24 V DC, 2 and 3-conductor connection, bus connection with D-SUB connector, width 156 mm **ILB PB 24 DI16 DO16** 2862411
DeviceNet	16/16	16 inputs and 16 outputs, 500 mA, 24 V DC, 2 and 3-conductor connection, bus connection with TWIN COMBICON connector, width 156 mm **ILB DN 24 DI16 DO16** 2862602
CANopen	16/16	16 inputs and 16 outputs, 500 mA, 24 V DC, 2 and 3-conductor connection, bus connection with TWIN COMBICON connector, width 156 mm **ILB CO 24 DI16 DO16** 2862592
PROFI BUS	16/16	16/32 inputs and 16 outputs, 500 mA, 24 V DC, 2 and 3-conductor connection, bus connection with RJ45 connector, width 156 mm **ILB PN 24 DI16 DO16-2TX** 2878146
Modbus/TCP	16/16	16/32 inputs and 16 outputs, 500 mA, 24 V DC, 2 and 3-conductor connection, bus connection with RJ45 connector, width 156 mm **ILB ETH 24 DI16 DO16-2TX** 2852962

General accessories

Front adapter e.g. for connecting PLC-RS
FLKM 14/PA-INLINERS6 2302751
FLKM 14/PA-INLINEOUTS6 2302738
FLKM 14/PA-INLINES2 2302777
FLKM 14/PA-INLINERS6 2304128
FLKM 14/PA-INLINEOUTS 2304131

FSMA connector for INTERBUS FO
PSM-SET-FSMA/4-KT 2799720
PSM-SET-FSMA/4-HCS 2799487

D-SUB-9 plug connector
IBS DSUB 9/L 2708473
IBS DSUB 9/C 2708486

SUBCON D-SUB connector for INTERBUS
SUBCON 9/F-SH 2761499
SUBCON 9/M-SH 2761509

SUBCON connector for PROFIBUS and CAN, 6 versions, e.g.
SUBCON-PLUS-PROFIB 2744348
See INTERFACE catalog

End cover plate
I-L ATP GN 2740850

Labeling field
IB IL FIELD 2 2727501
IB IL FIELD 8 2727515

Marking sheet
ESL 62X10 0809492
ESL 62X46 0809502

Zack marker strip labeling
See CLIPLINE catalog
ZBF# 6-... or ZBF 6-...

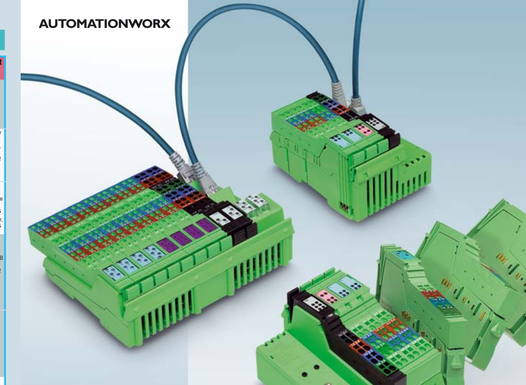
Coding profile
IL CP 2742683
Packing unit: 17 profiles

Standard end clamp 3022276
CLIPFIX 35-5
End clamp for CANopen and DeviceNet bus couplers 3022218
CLIPFIX 35

End bracket for use in the case of vibrations 1201662
EAL-NS 35

Spring-cage tool for removing the shield connection clamp 3034287
ZF-K-BWF 2-5

AUTOMATIONWORX



Inline Modular & Inline Block IO

Flexible and expandable –
Inexpensive and compact

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