The Drive & Control Company

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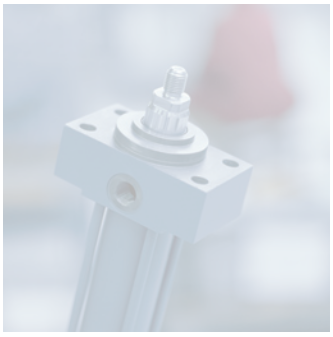
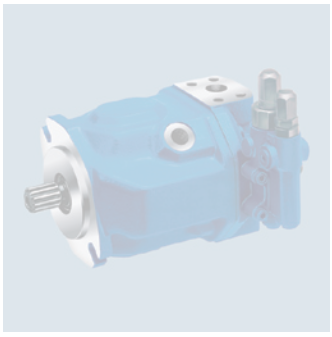
GoTo Products
Focused Delivery Program

GoTo

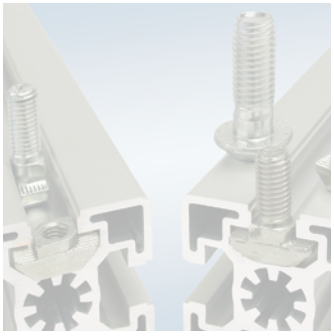
Electric Drives and Controls

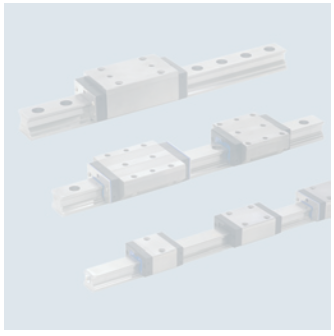
Hydraulics

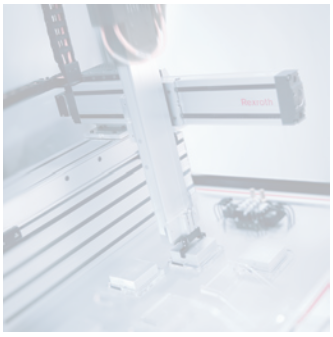




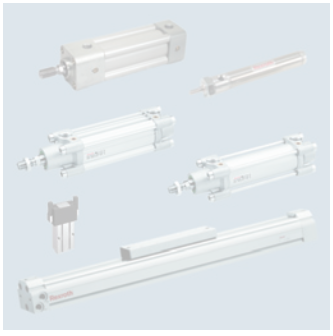
Linear Motion and Assembly Technologies

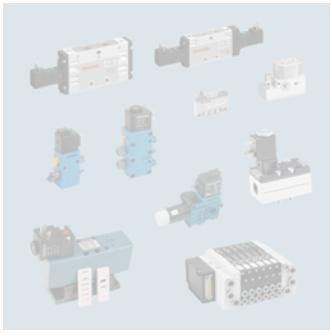






Pneumatics





Electric Drives and Controls ***GoTo*** Catalog

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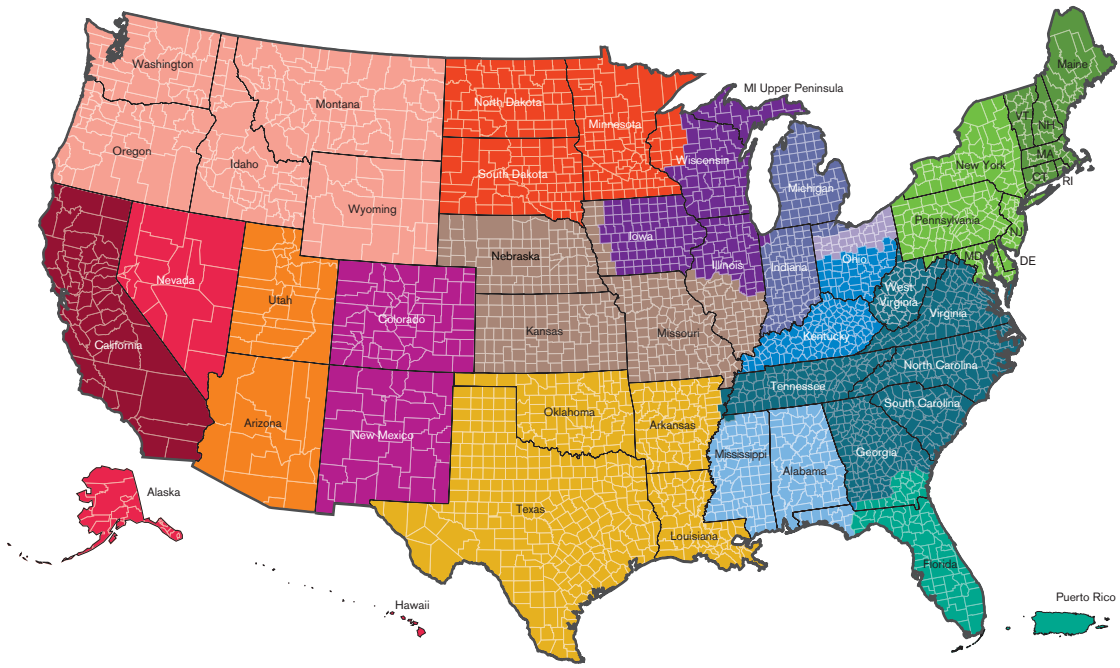

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In no event can the manufacturer accept warranty claims or liability claims for damages resulting from improper use or misuse of the equipment or as a result of changes made to the equipment other than those authorized by the manufacturer. The manufacturer will accept no claim in which non-original spare parts have been used.

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GoTo Focused Delivery Program: Drive Systems

Drives – IndraDrive Cs

The IndraDrive Cs is a servo drive that features a compact space-saving design. Selectable Multi-Protocol Ethernet command interface provides the flexibility of choosing any open Ethernet controller for the system, SERCOS III for example. A Multi-encoder interface allows use of the platform with virtually any motor technology, for instance torque or linear motor technologies.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToDriveSystems

Features

- Extremely compact design
- Ethernet-based communications, multi-protocol support: SERCOS III, Profi Net IO, EtherNet/IP and EtherCat
- Innovative multi-encoder interface: Hiperface®, EnDat 2.1, 1Vss, 5 V TTL, and Rexroth MSM and MSK servo motors
- Energy efficient product - DC bus sharing
- Standard , Servo and Synchronization modes available
- Complete range of scalable drives
- Compatible with the IndraDrive family
- Digital inputs/outputs and analog input on board
- Intelligent operating panel with programming function supports device swap without a PC
- Integrated brake resistor, alternative an external brake resistor can be connected

Technical Data

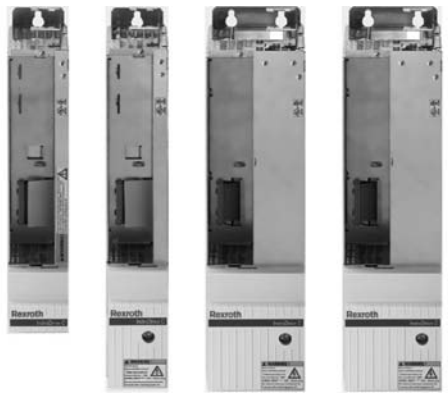
Models		new in GoTo **HCS01.1E-W0013-A-02**	**HCS01.1E-W0018-A-03**	**HCS01.1E-W0028-A-03**
Performance Data				
Mains voltage	V	1/3 AC 110...230 V	3 AC 200 … 500 V	
Continuous current	A_{eff}	4.4	7.6	11.5
Maximum current	A_{eff}	13	18	28
Maximum output without/with choke	kW	0.8 / --	1.7/ —	2.6/4.0
Mechanical data				
Width W	mm	50	70	
Height H (max)	mm	215	268	
Depth D (max)	mm	220	220	
Mass	kg	0.72	1.6	

Available Firmware Options	
FWA-INDRV*-MPB-16VRS-D5-1-ALL-NN	Basic closed loop 16VRS with the possibility to select synchronization, servo or main spindle extension set
FWA-INDRV*-MPB-17VRS-D5-1-NNN-NN	Basic closed loop 17VRS without the possibility to select synchronization, servo or spindle extension set
FWA-INDRV*-MPB-17VRS-D5-1-SNC-NN	Basic closed loop 17VRS with synchronization only extension set
FWA-INDRV*-MPB-17VRS-D5-1-ALL-NN	Basic closed loop 17VRS with the possibility to select synchronization, servo or spindle extension set
FWA-INDRV*-MPB-17VRS-D5-1-ALL-ML	Basic closed loop 17VRS with the possibility to select synchronization, servo or spindle extension set and MLD master

GoTo Focused Delivery Program: Drive Systems

Drives – IndraDrive C

Power Sections



IndraDrive sets new standards in drive technology with a combination of three product advantages: scalability in power and functionality, consistency in technology, engineering and operation and openness in communication. The IndraDrive C series of converters integrate inverter and power supply in one unit. The compact construction contains additional mains connection components, making it particularly suitable for single and multi axis applications.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToDriveSystems

Features

- Ethernet-based communications, multi-protocol support: SERCOS III, Profi Net IO, EtherNet/IP and EtherCat
- Compact converters and modular inverters on one platform
- Integrated motion logic with IEC-compliant PLC
- Drive-integrated safety technology
- Energy efficient product - DC bus sharing
- Standard , Servo and Synchronization modes available
- Complete range of scalable drives
- Digital inputs/outputs and analog input on board
- Intelligent operating panel with programming function supports device swap without a PC
- Integrated brake resistor, alternative an external brake resistor can be connected

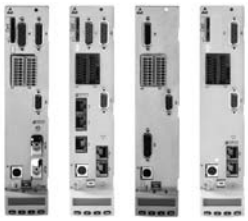
Technical Data

Models		HCS02.1E-W0012	HCS02.1E-W0028	HCS02.1E-W0054	HCS02.1E-W0070
Performance Data					
Mains voltage	V	3 AC 200 … 500 V			
Continuous current	Aeff	4.5	11.3	20.6	28.3
Maximum current	Aeff	11.5	28.3	54	70.8
Maximum output without/with choke	kW	5/5	8/10	12/16	14/19
Mechanical data					
Width W	mm	65	65	105	105
Height H (max)	mm	290	352		
Depth D (max)	mm	252			
Mass	kg	2.9	3.8	6.7	6.8

GoTo Focused Delivery Program: Drive Systems

Drives – IndraDrive C

Control Sections



We can supply control units tailored to your specific application, ranging from standard to high-end applications. Integrated motion logic, numerous technology functions, certified safety technology and standardized interfaces leave nothing to be desired.

The correct interface for connecting the IndraDyn motors or other standardized encoders, such as Hiperface®, is already integrated.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToDriveSystems

Features

- ADVANCED control units meet the highest demands in performance and dynamics.
- Signal transfer via fiber optics guarantees the secure exchange of real-time data with minimal wiring.
- Conventional ±10 V analog interface
- Digital inputs/outputs and analog input on board
- Standard , Servo and Synchronization modes available
- Intelligent operating panel with programming function supports device swap without a PC
- Scalable performance and functionality
- An additional plug-in MultiMediaCard gives you the option of simple transmission or duplication of your drive parameters.
- A standard encoder interface for IndraDyn motors is already featured among the BASIC control units.
- Integrated motion logic with IEC-compliant PLC
- Drive-integrated safety technology

Available Hardware Options

Overview	Basic Open Loop	Basic Analog	Basic PROFIBUS	Basic Sercos	Basic Universal	Advanced
Control communication						
Analog/digital for Open Loop operation	●	–	–	–	–	–
Analog interface	–	●	–	–	–	○[1]
Parallel interface	–	–	–	–	○	○
PROFIBUS	–	–	●	–	○	○
sercos II	–	–	–	●	○	○
sercos III	–	–	–	–	○	○
Multi-Ethernet	–	–	–	–	○	○
CANopen	–	–	–	–	○	○
DeviceNet	–	–	–	–	○	○
Configurations						
Option 1	–	●[2]	●[2]	●[2]	●[2]	●
Option 2	–	–	–	–	●	●
Option 3	–	–	–	–	–	●
Safety option	–	●	●	●	●	●
Slot for MultiMediaCard	–	–	–	–	●	●

● Standard
○ Optional
1) In conjunction with additional options
2) Encoder interface for IndraDyn motors
3) Only with sercos III and EtherCAT
4) Supply voltage 12 V

continued on next page

GoTo Focused Delivery Program: Drive Systems

Drives – IndraDrive C (continued)

Control Sections

Available Hardware Options (continued)

Encoder interfaces							
IndraDyn motors MSK, MKE, MAD and MAF, Hiperface®, 1 V_{pp} and 5 V TTL[4]		–	●	●	●	●	○
MHD and MKD motors		–	–	–	–	○	○
EnDat 2.1, 1 Vpp		–	–	–	–	○	○
Safety options compliant with EN 13849-1 and EN 62061							
Safe Torque Off (category 3 PL e/SIL [3]		–	○	○	○	○	○
Safe Motion (category 3 PL d/SIL [2]		–	–	–	–	–	○
Extensions							
Encoder emulation		–	●	–	–	○	○
Analog I/O extension		–	–	–	–	○	○
Digital I/O extension		–	–	–	–	–	○
Digital I/O with SSI interface		–	–	–	–	–	○
Cross communication		–	–	–	–	–	○
Software module							
MultiMediaCard		–	–	–	–	○	○
Operator panel							
Standard		●	●	●	●	●	●
Cycle times							
Current control	[µs]	125					62.5
Speed control	[µs]	250					125
Position control	[µs]	500					250
PWM frequency							
4/8 kHz		●/●	●/●	●/●	●/●	●/●	●/●
12/16 kHz		–/–	–/–	–/–	–/–	–/–	●/●
Inputs/outputs							
Digital inputs/of which utilizable for probes		8/–	5/–	5/1	5/1	5/1	7/2
Digital inputs/outputs (user-defined settings)		–	4	3	3	3	4
Analog inputs		2	2	–	–	–	1
Analog outputs		2	–	–	–	–	2
Relay outputs		3	1	1	1	1	1
Interfaces							
RS232		●	●	●	●	●	●
Control voltage data							
Control voltage	[V]	DC 24					
Power consumption without options	[W]	7.5	8	7.5	7.5	6.5	6
Continuous current without options	[A]	0.31	0.33	0.31	0.31	0.27	0.25

● Standard
○ Optional

1) In conjunction with additional options
2) Encoder interface for IndraDyn motors
3) Only with sercos III and EtherCAT
4) Supply voltage 12 V

Available Firmware Options

FWA-INDRV*-MPB-05VRS-D5-1-NNN-NN	Basic closed loop 05VRS without the possibility to select synchronization, servo or main spindle extension set
FWA-INDRV*-MPB-05VRS-D5-1-SNC-NN	Basic closed loop 05VRS with synchronization only extension set
new in GoTo FWA-INDRV*-MPB-07VRS-D5-0-NNN-NN	Basic open loop 07VRS
FWA-INDRV*-MPB-07VRS-D5-1-NNN-NN	Basic closed loop 07VRS without the possibility to select synchronization, servo or main spindle extension set
FWA-INDRV*-MPB-07VRS-D5-1-SNC-NN	Basic closed loop 07VRS with synchronization extension set
FWA-INDRV*-MPC-07VRS-D5-1-SNC-ML	Advanced closed loop 07VRS with synchronization extension set for MLD master (software module PFM…-FW reqd.)
new in GoTo FWA-INDRV*-MPC-07VRS-D5-1-ALL-MA	Advanced closed loop 07VRS with all extension sets for MLD master (software module PFM…-FW required)

Software module

MultiMediaCard - PFM02.1-016-FW	Optional with Basic Universal and Advanced control sections
	Required for control sections and MPC-firmware with MLD master

GoTo Focused Delivery Program: Drive Systems

Motors – IndraDyn S

MSK Motor

The particularly outstanding features of the MSK range of motors are its wide power spectrum and narrow size increments. The high torque density of these synchronous servo motors allows a particularly compact design with maximum torques of up to 495 Nm.

A number of further options, such as the shaft keyway, holding brake, reduced runout and the high protection category IP65 mean that they can be used in virtually any application.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToDriveSystems

Features

- Motors with the highest level of efficiency
- High protection category IP65
- Multi-turn encoder (Hiperface®) – 128 increments with 4,096
- Encoder systems for a wide and diverse range of applications
- Digital type plate and parameter memory

Performance Data

Type	Maximum speed nMax (1/min)	Continuous torque at standstill M0 (Nm)	Maximum torque MMax (Nm)	Continuous current at standstill I0 (A)	Maximum current IMax (A)	Moment of inertia J (kgm2)
new in GoTo MSK030C-0900	9,000	0.4	1.8	1.5	6.8	0.000013
new in GoTo MSK040B-0600	7,500	1.7	5.1	2	8	0.0001
MSK040C-0450	6,000	2.7	8.1	2.4	9.6	0.00014
MSK040C-0600	7,500			3.1	12.4	
new in GoTo MSK050C-0600	6,000	5	15	6.2	24.8	0.00033
MSK060C-0300	4,900	8	24	4.8	19.2	0.0008
MSK061C-0600	6,000		32	7.7	34.7	0.000752
new in GoTo MSK071E-0300	4,200	23	84	12.5	56.3	0.0029
new in GoTo MSK071E-0450	6,000			20	90.1	
MSK076C-0300	4,700	12	43.5	7.2	32.4	0.0043
new in GoTo MSK100B-0300	4,500	28	102	17.4	78.3	0.0192
new in GoTo MSK100C-0300	4,500	38	148	21.6	97.2	0.0273
new in GoTo MSK101D-0450	6,000	50	160	41.7	187.7	0.00932

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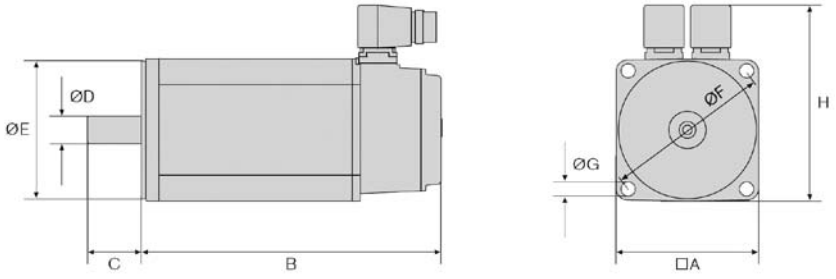
GoTo Focused Delivery Program: Drive Systems

Motors – IndraDyn S (continued)

MSK Motor

Dimensional Data

Type	A (mm)	B (mm)	C (mm)	Ø D (mm)	Ø E (mm)	Ø F (mm)	Ø G (mm)	H (mm)	Weight (kg)
MSK030C-0900	54	152.5	20	9	40	63	4.5	98.5	1.3
MSK040B-0600	82	155.5	30	14	50	95	6.6	124.5	2.8
MSK040C-0450	82	185.5	30	14	50	95	6.6	124.5	3.6
MSK040C-0600									
MSK050C-0600	98	203	40	19	95	115	9	134.5	5.4
MSK060C-0300	116	226	50	24	95	130	9	156	8.4
MSK061C-0600	116	264	40	19	95	130	9	156	8.3
MSK071E-0300	140	352	58	32	130	165	11	202	23.5
MSK071E-0450									
MSK076C-0300	140	292.5	50	24	110	165	11	180	13.8
MSK100B-0300	192	368	60	32	130	215	14	211.5	34
MSK100C-0300	192	434	60	32	130	215	14	211.5	45.1
MSK101D-0450	192	410	80	38	180	215	14	262	40



GoTo Focused Delivery Program: Drive Systems

Motors – IndraDyn S

MSM Motor

Maintenance-free MSM motors are available in five sizes rated at up to 750 W continuous mechanical power. These short-length motors feature high power density and minimized flange dimensions, making them the ideal choice in a wide range of application scenarios.

The IP54 motors come with an absolute encoder and optional holding brake, and they can easily be connected to IndraDrive Cs power units with a 3 AC 230 V line input.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToDriveSystems

Features

- Torque up to 7.1 Nm
- Speed up to 5,000 rpm
- Multi-turn absolute encoder
- High dynamic performance
- High performance density

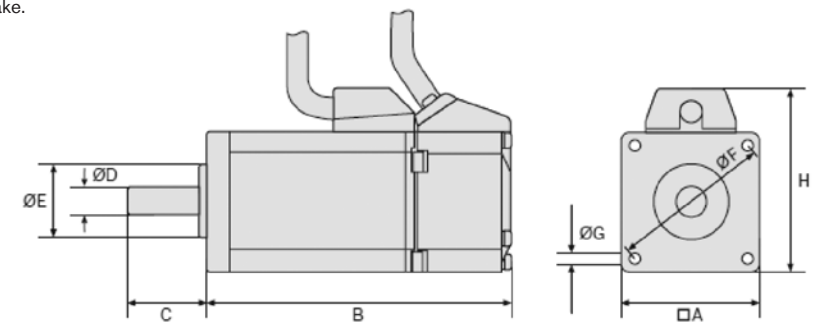
Performance Data

Type	Rated power	Continuous torque at standstill	Maximum torque	Maximum speed	Moment of inertia
	PN (W)	M0 (Nm)	MMax (Nm)	nMax (1/min)	J (kgm²)
MSM019B	100	0.32	0.95	5,000	0.0000025
MSM031B	200	0.64	1.91	5,000	0.0000051
MSM031C	400	1.3	3.8	5,000	0.000014
MSM041B	750	2.4	7.1	4,500	0.000087

Dimensional Data

Type	A (mm)	B (mm) 1)	C (mm)	Ø D (mm)	Ø E (mm)	Ø F (mm)	Ø G (mm)	H (mm)	Weight (kg) 1)
MSM019B	38	92 / 122	25	8	30	45	3.4	51	0.47 / 0.68
MSM031B	60	79 / 115.5	30	11	50	70	4.5	73	0.82 / 1.3
MSM031C	60	98.5 / 135	30	14	50	70	4.5	73	1.2 / 1.7
MSM041B	80	112 / 149	35	19	70	90	6	93	2.3 / 3.1

1) dimensions with / without brake.



GoTo Focused Delivery Program: Drive Systems

Additional Components

The NFD line filter.
Mains filters ensure that the EMC limit values are adhered to and suppress leakage current generated by line capacitors. Our mains filters are optimally coordinated with the power units and are scalable in regards to current, number of drives and motor cable length. They can be combined with our shielded motor cables for trouble-free operation conforming to EN 61800-3, Class A, Group 2, even with single cable lengths of up to 75 m.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToDriveSystems

Technical Data

Main filters for HCS converters						
Type	Continuous current	Power dissipation	Width	Height	Depth	Mass
	A	W	mm	mm	mm	kg
NFD03.1-480-016	16	6.4	55	220	90	1
NFD03.1-480-030	30	11.9	60	270	100	1.4
NFD03.1-480-055	55	25.9	90	220	105	2

Accessories

Basic accessories HAS01	The basic accessories contain all the mounting parts and fixing elements for installing the HCS02.1 drive controllers (not needed for HCS01.1)
Shield connection HAS02	The shield connection plate is an EMC-compatible method of connecting the motor power cable to the HCS02.1 drive controllers. It also serves as a cord grip (not needed for HCS01.1).
Connection Points HAS05	Universal adapter for safety technology for easier X41 wiring of 2nd channel

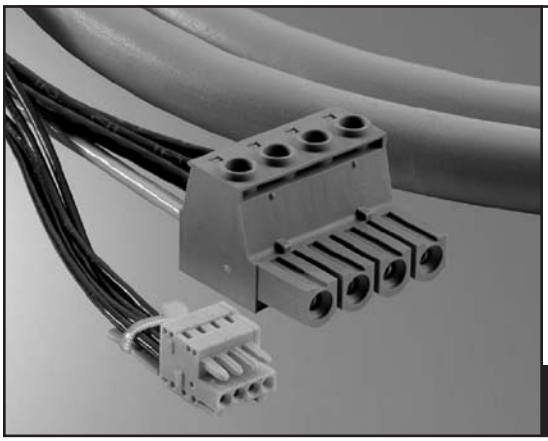
Basic accessories HAS01	
Type	**needed with**
HAS01.1-065-NNN-CN	HCS02.1...W0012/W0028
HAS01.1-105-NNN-CN	HCS02.1...W0054/W0070

Shield connection HAS02	
Type	**needed with**
HAS02.1-002-NNN-NN	HCS02.1...W0054/W0070

Connection Points HAS05	
Type	**optional (for control sections with L2/S2 safety - X41 adapter)**
HAS05.1-007-NNL-NN	Adapter from D-Sub to terminal connector – fitting direction: left-hand
HAS05.1-007-NNR-NN	Adapter from D-Sub to terminal connector – fitting direction: right-hand

GoTo Focused Delivery Program: Drive Systems

Cables



Motor Power- and Feedback Cable assemblies for IndraDrive C and Cs drives with IndraDyn S motors in the ***GoTo*** program are offered in multiple lengths and are completely assembled with connectors for easy installation.

Interface/Communication cables for connection of control units and system peripherals or start-up/commissioning via PC as described by type.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToDriveSystems

Technical Data

Motor power Cable	Length [1]		Connecting	
			Drives	Motors
new in GoTo RKL0013/005.0	fixed	5m	IndraDrive Cs - HCS01.1…W0013	MSM019,031,041
new in GoTo RKL0013/000.0	configurable	1–75m		
new in GoTo RKL0014/005.0	fixed	5m	IndraDrive Cs - HCS01.1…W0013	MSK030,040,050,060,061
new in GoTo RKL0014/000.0	configurable	1–75m		
RKL0019/005.0	fixed	5m	IndraDrive Cs - HCS01.1…W0018 and W0028	MSK030,040,050,060,061,076
RKL0019/010.0	fixed	10m		
new in GoTo RKL0019/000.0	configurable	1–75m		
RKL4302/005.0	fixed	5m	IndraDrive C - HCS02.1…W0012 and W0028	MSK030,040,050,060,061,076
RKL4302/010.0	fixed	10m		
new in GoTo RKL4302/000.0	configurable	1–75m		
RKL4303/005.0	fixed	5m	IndraDrive C - HCS02.1…W0054 and W0070	MSK030,040,050,060,061,076
RKL4303/010.0	fixed	10m		
new in GoTo RKL4303/000.0	configurable	1–75m		
new in GoTo RKL4309/005.0	fixed	5m	IndraDrive C - HCS02.1…W0054 and W0070	MSK071E-300,450
new in GoTo RKL4309/000.0	configurable	1–75m		
new in GoTo RKL4324/005.0	fixed	5m	IndraDrive C - HCS02.1…W0054 and W0070	MSK100,101
new in GoTo RKL4324/000.0	configurable	1–75m		

Motor Feedback Cable	Length [1]		Connecting	
			Drives	Motors
RKG4200/005.0	fixed	5m	IndraDrive C and Cs	any MSK motor
RKG4200/010.0	fixed	10m		
new in GoTo RKG4200/000.0	configurable	1–75m		
new in GoTo RKG0033/005.0	fixed	5m	IndraDrive Cs…W0013	MSM019,031,041
new in GoTo RKG0033/000.0	configurable	1–75m		
new in GoTo RKG0034/000.0	configurable	1–2m	IndraDrive Cs…W0013	MSM019,031,041 for absolute encoder function in conjunction with SUP-E01-MSM-BATTERYBOX

1) Cables marked "fixed" are sized to the length stated; cables marked "configurable" can be ordered based on length needed within the range given and 0.5m increments

continued on next page

GoTo Focused Delivery Program: Drive Systems

Cables (continued)

Technical Data (continued)

Interface cable (optical – Sercos II)	Length	Connecting
RKO0100/00.25	0.25m	Drives and peripherals with Sercos II (optical) communication interface, inside cabinet
RKO0101/005.0	5m	Drives and peripherals with Sercos II (optical) communication interface, outside cabinet
RKO0101/010.0	10m	

Interface cable (Ethernet based)	Length	Connecting
RKB0011/005.0	5m	Drives and peripherals with Sercos III or other Ethernet based communication interface
RKB0013/00.25	0.25m	

Interface cable (RS232 - Serial)	Length	Connecting
IKB0041/002.0	2m	A PC or a separate control terminal directly to the RS232 serial interface of the control unit for start-up or operation

Battery box		(HCS01.1 - MSM)
new in GoTo SUP-E01-MSM-BATTERYBOX		External battery for absolute encoder function with HCS01.1 and MSM, connected in feedback circuit between RKG0033 and MSM or between RKG0033 and optional RKG0034

GoTo Focused Delivery Program: Motion Control PAC

IndraControl L

IndraControl L the rack-based platform from Rexroth allows easy and consistent automation for all centralized and distributed architectures.

IndraControl L is the flexible configurable hardware platform for open control architectures. Whether you intend to implement a motion control, a CNC or a PLC application – it is always the same hardware you use. Your application is only defined by the software.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToMotionControl_PAC

Features

- Scalable hardware platform
- Standardized communication interfaces
- Optional expansion through function and technology modules
- Ideal for centralized and distributed control
- Individually expandable with high-grade Human-Machine Interface (HMI) components
- Modular I/O units

Technical Data

Control hardware		**L40 IndraLogic 1G**	**L25 IndraLogic 2G**	**L45 IndraLogic 2G**
Memory				
Application:		64 MB	128 MB	256 MB
Retentive memory:		128 kB	256 kB	256 kB
Buffered:		1 MB	--	8 MB
Flash size:		128 MB	1 GB	1 GB
Interfaces				
Ethernet:		1 x Ethernet TCP/IP (Standard)		
Ready:		1 x ready contact (Standard)		
Others		---		2 x Ethernet TCP/IP
I/O				
Digital inputs		8 DC-decoupled inputs (with interrupt capability)	---	8 DC-decoupled inputs (with interrupt capability)
Digital outputs		8 DC-decoupled outputs	---	8 DC-decoupled outputs
Channels, used	Max.	256		
I/O extension	Max. no. of Inline modules	63		
	Max. no. of bytes	64		
Function Modules	Max.	4	2	4
Fieldbus				
Sercos:		1 x Sercos II	1 x Sercos III	
ProfiNet:		---		1 x ProfiNet IO Controller/-Device (Option)
EtherNet/IP:		---		1 x EtherNet/IP Scanner/-Adapter (Option)
Profibus:		1 x Profibus-Master/-Slave	---	1 x Profibus-Master/-Slave

GoTo Focused Delivery Program: Motion Control PAC

IndraMotion MLC

IndraMotion MLC is the integrated controller-based system solution from Rexroth. It uses PLC programming according to IEC 61131-3 with object oriented programming such as: Function Block Diagrams (FBD), Ladder Diagrams (LD), Sequential Function Chart (SFC), and Structured Text (ST).

The compact Rexroth IndraMotion MLC motion logic system gives you any freedom you wish for your consistent and modern machine automation. Innovative software and firmware functions, easy engineering and open system interfaces provide maximum flexibility in all motion applications.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToMotionControl_PAC

Technical Data

Control Hardware		MLC L40	MLC L25	MLC L45
PLC runtime system				
IndraLogic 1G kernel	Conforming with IEC 61131-3	•	---	---
IndraLogic 2G kernel	Conforming with IEC 61131-3 with extensions	---	•	•
Task management				
Freely projectable tasks (priority 0-20)	Cyclic, free-running, event-controlled, extern event-controlled		8	
Cycle-synchronous processing of the I/O process image			•	
sercos III synchronous processing of the I/O process image			•	
min. PLC cycle time	Synchronous with system cycle		1 ms	
min. Motion cycle time	Setpoint generator	1 ms	2 ms	1 ms
PLC processing time				
Typical processing time for 1,000 instructions/µs	Command mix (Real, Integer, Bool etc.)	50	35	30
	Bool-Operation	50	20	30
	Word-Operation	50	20	30
Motion Control				
Number of axes	Real, virtual, encoder, grouping	32	16	32
Synchronization (ELS – electronic line shaft)	real axes (Servo drives)		•	
	Virtual axes (Virtual masters)		•	
	Encoder axes (Real masters)		•	
	real axes (Cross-communication)		•	
	Dynamic synchronization		•	
	Master axis cascading		•	
Positioning	Single-axis		•	
Electronic gears			•	
	Intermediate point tables (In the drive, max. 1,024 intermediate points)		4	
	Electronic Motion Profile (in the output drive, motion profiles with max. 16 segments)		2	
	FlexProfile (In the control, master-/time-based motion profiles with max. 16 segments)		4	
Drive systems				
IndraDrive		•	•	•
IndraDrive Mi	Firmware MPB	•	•	•
IndraDrive Cs		•	•	•
EcoDrive Cs		•	•	•
SERCOS Pack-Profile		•	•	•
HNC100.3	Hydraulic drive	•	•	•

GoTo Focused Delivery Program: I/O

Inline – Power Modules

Compact modules utilizing spring-cage I/O connectors. Provide either 24 V DC to all PLC busses (Logic, Input, Output, Analog). Segment modules create separate “zone” of I/O to which power can be selectively cut-off.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

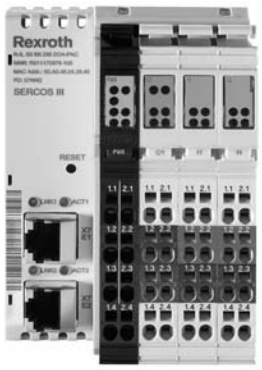
- 2 available DC power modules to add only the power needed
- Wiring terminals easily removed, to allow module replacement without rewiring
- Single power module can provide up to 8A of 24 V DC power to PLC busses

Technical Data

		R-IB IL PWR IN-PAC	R-IB IL 24 SEG/F-PAC	R-IB IL 24 SEG/F-D-PAC
24-V power supply for generation of U_L and U_{ANA}				
Rated value		–	–	
Permissible range		–	–	
Power consumption at nominal voltage				
24-V module supply		–	–	
Logic supply	Rated value	–	–	
	Max. output current	–	–	
Analog supply	Rated value	–	–	
	Max. output current	–	–	
Rated value		24 V DC	**Permissible total current in the potential terminals of the main and segment circuits**	
Permissible range		19.2 to 30 V		
Permissible current		Max. 8 A		
Nominal terminal current		–	6.0 A	
Max. permissible value		–	8.0 A	
Electric data				
Transmission speed		500 kbaud		
Error message to the higher level control system		–		Yes
Mechanical data				
Dimensions (W x H x D)		12.2 x 120 x 71.5 mm	12.2 x 120 x 71.5 mm	
Weight (without plug)		44 g		
Protection category		IP20		
Protection class		Class 3 according to VDE 0106, IEC 60536		–
Safety classification		–		Class 3 according to VDE 0106, IEC 60536
Accessories		Connectors and labels included		

GoTo Focused Delivery Program: I/O

Inline – Bus Couplers



sercos
the automation bus

Sercos III and Profibus I/O bus couplers available. Bus couplers provide network drops that are expandable with using the same Inline I/O that is used locally with a PLC.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

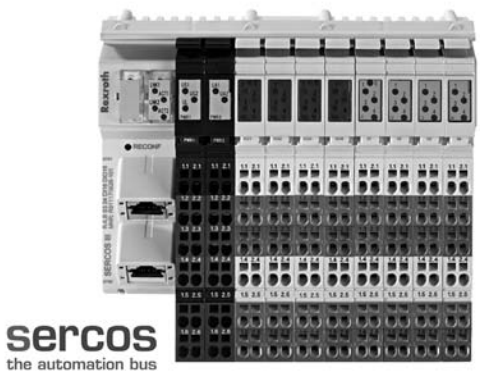
- Wiring terminals easily removed to allow module replacement without rewiring
- Sercos III bus coupler for an entire Sercos III fieldbus architechture
- Configurable network speeds

Technical Data

	R-IL S3 BK DI8 DO4-PAC	new in GoTo R-IL PB BK DI8 DO4/CN-PAC	R-IL PB BK DP/V1-PAC
Communication			
Interfaces	Sercos III	PROFIBUS DP	PROFIBUS DP
	Local bus		
System data			
Number of segments per station	Max. 63 (incl. 2 at bus coupler)		Max. 63
Total of all I/O data per station	Max. 244 bytes		max 176/184 bytes, dep. mode
Transmission speed in the local bus	500 kbaud		Auto. to master speed
Digital outputs			
Number	4		–
Nominal output voltage UOut	24 VDC		–
Total current	2 A		–
Protection	Short-circuit, overload		–
Actuator connection type	2-, 3-wire connection		–
Digital inputs			
Number	8		–
Nominal input voltage UINom	24 VDC		–
Permissible nominal input voltage range	–30 < UINom < +30 VDC		–
Nominal input current at UINom	Typ. 3 mA		–
Permissible line length	30 m		–
Sensor connection type	2-, 3-wire connection		–
Segment feed US/UM			
Nominal value	24 VDC		
Tolerances	–15/+20 %		
Load current	Max. 8 A		
Mechanical data			
Dimensions (W x H x D)	80 x 121 x 70 mm		91 x 120 x 71.5 mm
Protection category	IP20		
Protection class	Class 3 according to VDE 0106, IEC 60536		
Accessories			
	Connectors and labels included		

GoTo Focused Delivery Program: I/O

Inline – Block I/O



Rexroth Inline Block is the ideal solution for applications with Block I/O requirements. The bus couplers have built-in inputs and outputs. The compact design saves space and gives you additional options when you develop your automation solution.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

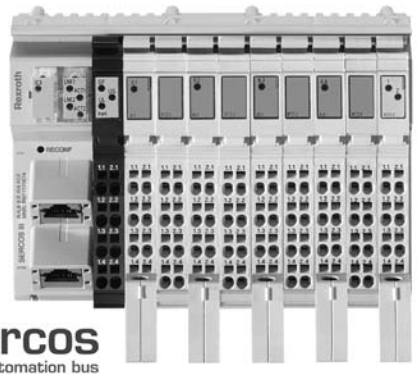
- Cost-effective multi-wire connection technique
- Configurable network speeds
- Sercos III Block I/O provides 16 inputs and 16 configurable input/outputs

Technical Data

		R-ILB S3 24 DI16 DIO16
Communication		
Interfaces		SERCOS III
Digital inputs		
Number		32 (16 fixed, 16 freely configurable)
Switching thresholds	Max. voltage at low level ULmax	< 5 V
	Max. voltage at high level UHmax	> 15 V
Nominal input voltage UINom		24 VDC
Permissible nominal input voltage range		–30 < UINom < +30 VDC
Nominal input current at UINom		Min. 3 mA
Permissible line length		30 m
Sensor connection type		2-, 3- wire connection
Digital outputs		
Number		16
Nominal output voltage UOut		24 VDC
Total current		8 A
Protection		Short-circuit/overload
Signal delay on activation of a		
nominal resistive load (12 Ω/48 W)		Typ. 500 µs
nominal lamp load (48 W)		Typ. 100 ms
nominal inductive load (1.2 H, 12 Ω)		Typ. 100 ms
Actuator connection type		2-, 3- wire connection
Mechanical data		
Dimensions (W x H x D)		156 x 141 x 55 mm
Protection category		IP20
Protection class		Class 3 according to VDE 0106, IEC 60536
Accessories		
		Connectors and labels included

GoTo Focused Delivery Program: I/O

Inline – Block I/O Analog



The R-ILB S3 AI4 AO2 module is designed for use within a SERCOS III network. It is used to acquire analog input signals and output analog signals.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

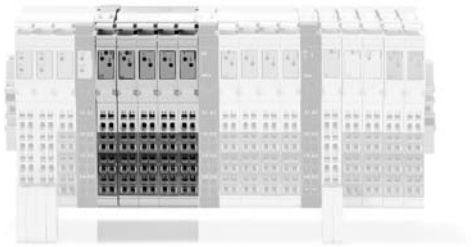
- 2 x Ethernet twisted pair according to 802.3u with auto negotiation and auto crossing
- Transmission speed of 100 Mbps
- I/O areas can be parameterized individually for each channel
- 4 analog inputs
- 2 analog outputs

Technical Data

		R-ILB S3 AI4 A02
Communication		
Interfaces		Sercos III
Analog inputs		
Number		4 analog differential inputs
Conversion time of A/D converter		180 µs
Signal connection type		2-, 3- and 4-wire connection
Analog differential voltage inputs		
Number		4
Input range		0 to 10 V, ±10 V, 0 to 5 V, ±5 V
Input resistance		> 240 kΩ
Analog differential current inputs		
Number		4
Input range		0 to 20 mA, ±20 mA, 4 to 20 mA
Input resistance		< 100 Ω
Analog differential RTD inputs		
Number		4
Input range		PT 100, PT 500, PT 1,000, Ni 100, Ni 1,000 L&G, 0 to 2,500 Ω, 0 to 9.500 Ω
Analog outputs		
Number		2
Conversion time of D/A converter		Max. 70 µs
Output load :	Voltage ouput RLmin	2 kΩ
	Current output RLB	0 to 500 Ω
Signal connection type		2-wire connection
Mechanical data		
Dimensions (W x H x D)		156 x 141 x 55 mm
Protection category		IP20
Protection class		Class 3 according to VDE 0106, IEC 60536
Accessories		
		Connectors and labels included

GoTo Focused Delivery Program: I/O

Inline – Digital Input Modules



Modules of varying input counts, utilizing spring-cage I/O connectors. Buy only what you need. Only 24 V DC is available through GoTo program, but AC I/O is available.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

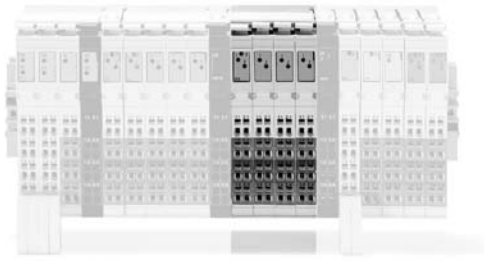
- Input modules with up to 32 inputs available
- EDI module includes diagnostic LEDs
- Wiring terminals easily removed, to allow module replacement without rewiring
- 2-, 3-, 4-wire inputs available depending on your needs

Technical Data

		R-IB IL 24 DI 4-PAC	R-IB IL 24 DI 8-PAC	R-IB IL 24 DI 16-PAC	R-IB IL 24 DI 32/HD-PAC
Digital inputs					
Number		4	8	16	32
Switching thresholds	max. voltage at low level U_{Lmax}	< 5 V			< 5 V DC
	max. voltage at high level U_{Hmax}	> 15 V			> 15 V DC
Common potentials		Segment supply, ground			
Nominal input voltage U_{INom}		24 V DC			
Nominal input current at U_{INom}		Min. 3 mA			2.8 mA
Delay time t_{On}		–			2 ms
Delay time t_{Off}		–			4 ms
Permissible line length		30 m			
Sensor connection type		2-, 3- or 4-wire connection			1-wire connection
Electric data					
Logic voltage U_L		7.5 V			
Power consumption from local bus U_L		40 mA	50 mA	60 mA	90 mA
Nominal current consumption from U_S		Max. 1.0 A	Max. 2.0 A	Max. 4.0 A	–
Mechanical data					
Dimensions (W x H x D)		12.2 x 141 x 71.5 mm	48.8 x 120 x 71.5 mm	48.8 x 141 x 71.5 mm	48.8 x 120 x 71.5 mm
Protection category		IP20			
Protection class		Class 3 according to VDE 0106, IEC 60536			
Accessories		Connectors and labels included			

GoTo Focused Delivery Program: I/O

Inline – Digital Output Modules



Modules of varying output counts, utilizing spring-cage I/O connectors. Buy only what you need. 24 V DC, 120 V AC and 240 V AC available.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Output modules with up to 32 outputs available
- Transistor, Triac, Relay outputs available
- Wiring terminals easily removed to allow module replacement without rewiring
- Single-, 2-, 3-, 4-wire outputs available depending on your needs

Technical Data

		R-IB IL 24 DO 2-2A	R-IB IL 24 DO 4-PAC	R-IB IL 24 DO 8-PAC	R-IB IL 24 DO 8-2A-PAC	R-IB IL 24 DO 16-PAC	R-IB IL 24 DO 32/ HD-PAC
Digital outputs							
Number		2	4	8		16	32
Nominal output voltage U_{Out}		24 V DC					
Nominal current I_{Nom} per channel		2 A	0.5 A		2 A	0.5 A	
Total current		4 A	2 A	4 A	8 A (at 50 % synchronism)	8 A	
Protection		Short-circuit/overload					
Signal delay upon power on of	nominal resistive load (12 Ω/48 W)	Typ. 200 µs	Typ. 100 µs		Typ. 50 µs	Typ. 500 µs	
	nominal lamp load (48 W)	Typ. 200 ms	Typ. 100 ms		Typ. 75 ms	Typ. 100 ms	
	nominal inductive load (1.2 H, 12 Ω)	Typ. 250 ms	Typ. 100 ms		Typ. 50 ms	Typ. 100 ms	
Signal delay upon power down of	nominal resistive load (12 Ω/48 W)	Typ. 200 µs	Typ. 1 ms		Typ. 500 µs	Typ. 1 ms	
	nominal lamp load (48 W)	Typ. 200 µs	Typ. 1 ms		Typ. 500 µs	Typ. 1 ms	
	nominal inductive load (1.2 H, 12 Ω)	Typ. 250 ms	Typ. 50 ms		Typ. 150 ms	Typ. 50 ms	
Actuator connection type		2-, 3- or 4-wire	2-, 3-wire	2-, 3- or 4-wire	2-, 3- or 4-wire	2-, 3-wire	1-wire
Electric data							
Logic voltage		7.5 V					
Power consumption from local bus U_L		Max. 35 mA	Max. 44 mA	Max. 60 mA	Max. 60 mA	Max. 90 mA	Max. 140 mA
Segment supply voltage U_S		24 V DC (nominal value)					
Nominal current consumption from U_S		Max. 4 A (2 x 2 A)	Max. 2 A (2 x 0.5 A)	Max. 4 A (8 x 0.5 A)	Max. 8 A	Max. 8 A (16 x 0.5 A)	Max. 8 A (16 x 0.5 A or 32 x 0.25 A)
Error message to the higher level control system		Short-circuit/overload of an output			–	Short-circuit/overload of an output	

continued on next page

GoTo Focused Delivery Program: I/O

Inline – Digital Output Modules (continued)

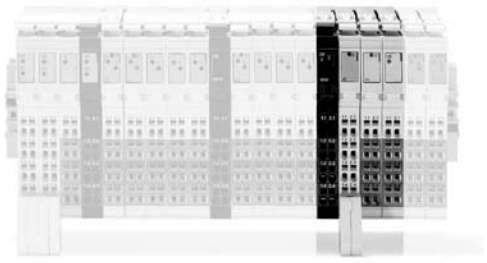
Technical Data (continued)

	R-IB IL 24 DO 2-2A	R-IB IL 24 DO 4-PAC	R-IB IL 24 DO 8-PAC	R-IB IL 24 DO 8-2A-PAC	R-IB IL 24 DO 16-PAC	R-IB IL 24 DO 32/ HD-PAC
Mechanical data						
Dimensions (W x H x D)	12.2 x 120 x 71.5 mm	12.2 x 141 x 71.5 mm	48.8 x 120 x 71.5 mm	48.8 x 120 x 71.5 mm	48.8 x 141 x 71.5 mm	48.8 x 120 x 71.5 mm
Protection category	IP20					
Protection class	Class 3 according to VDE 0106, IEC 60536					
Accessories	Connectors and labels included					

	R-IB IL 24/230 DOR 1/W-PAC	R-IB IL 24/230 DOR 4/W-PAC
Relay output		
Number	1	4
Max. switching voltage	253 V AC, 250 V DC	
Max. switching capacity	750 VA	
Electric data		
Logic voltage U_L	7.5 V	
Power consumption from local bus U_L	Max. 60 mA	Max. 187 mA
Operating mode: process data mode	2 bits	2 bits
Transmission speed	500 kbaud	
Ambient conditions		
Permissible temperature (operation)	–25 to +55 °C	
Permissible temperature (storage)	–25 to +85 °C	
Permissible relative humidity (operation)	5 to 90 %	
Permissible relative humidity (storage)	5 to 95 %	
Mechanical data		
Dimensions (W x H x D)	12.2 x 120 x 71.5 mm	
Weight (without plug)	46 g	
Protection category	IP20	
Protection class	Class 3 according to VDE 0106, IEC 60536	
Accessories	Connectors and labels included	

GoTo Focused Delivery Program: I/O

Inline – Analog Input Modules



1 – 8 channel modules available. Spring-cage wired. Voltage and Current I/O available.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

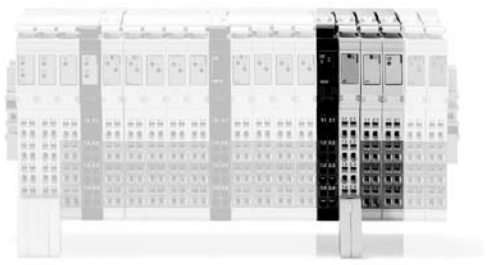
- Wiring terminals easily removed to allow module replacement without rewiring
- Adjustable resolution
- Programmable output formats
- High-speed processing available

Technical Data

	R-IB IL AI 2/SF-PAC	R-IB IL AI 8/IS-PAC	R-IB IL AI 8/SF-PAC
Analog inputs			
Number	2 anlog single-ended inputs	8 analog single-ended inputs	
Digital filtering (averaging)	Across 16 measurement values (can be switched off)	None or across 4, 16 or 32 measurement values	
Conversion time of A/D converter	Typ. 120 µs	Max. 10 µs	
Voltage inputs			
Measuring ranges	0 to 10 V, ±10 V	–	0 to 10 V, ±10 V, 0 to 5 V, ±5 V, 0 to 25 V, ±25 V, 0 to 50 V
Process data update of either channel	< 1.5 ms	–	< 1.5 ms
Current inputs			
Measuring ranges	0 to 20 mA, ±20 mA, 4 to 20 mA	0 to 20 mA, 4 to 20 mA, ±20 mA, 0 to 40 mA, ±40 mA	
Process data update of either channel	< 1.5 ms	Synchronous with the bus	< 1.5 ms
Max. permissible current in each input	±100 mA		
Resolution	16 Bit		
Sensor connection type	2-, 3-wire connection		2-wire connection
Electric data			
Logic voltage U_L	7.5 V		
Power consumption from local bus U_L	Typ. 45 mA	Typ. 52 mA, max. 65 mA	Typ. 48 mA, max. 55 mA
Peripheral supply voltage U_{ANA}	24 V DC		
Power consumption at U_{ANA}	Typ. 12 mA	Typ. 31 mA, max. 40 mA	Typ. 30 mA, max. 35 mA
Mechanical data			
Dimensions (W x H x D)	12.2 x 135 x 71.5 mm	48.8 x 135 x 71.5 mm	48.8 x 120 x 71.5 mm
Protection category	IP20		
Protection class	Class 3 according to VDE 0106, IEC 60536		
Accessories	Connectors and labels included		

GoTo Focused Delivery Program: I/O

Inline – Analog Output Modules



1 or 2 channel modules available. Spring-cage wired. Voltage and Current Output available. 16-bit resolution. Easy to set up.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Wiring terminals easily removed to allow module replacement without rewiring
- Adjustable resolution
- Programmable output formats
- High-speed processing available
- Only 1 data register required to configure module

Technical Data

	R-IB IL AO 2/U/BP-PAC	R-IB IL AO 1/SF-PAC	R-IB IL AO 2/SF-PAC
Analog outputs			
Number	2 single-ended outputs	1, automatically configured in relation to the terminal point used	2, automatically configured in relation to the terminal point used
Current ranges	–	0 to 20 mA, 4 to 20 mA	
Voltage ranges	–10 to +10 V/0 to +10 V	0 to 10 V	
Output load			
Resolution	16 bits		
Process data update including conversion time of D/A converter	< 1 ms		
Actuator connection type	2-wire connection		
Electric data			
Logic voltage U_L	7.5 V		
Power consumption from local bus U_L	Typ. 33 mA, max. 40 mA		Typ. 36 mA, max. 45 mA
Peripheral supply voltage U_{ANA}	24 V DC		
Power consumption at U_{ANA}	Typ. 25 mA, max. 35 mA	Typ. 50 mA, max. 65 mA	Typ. 75 mA, max. 95 mA
Error message to the higher level control system	Failure or logic voltage U_L not reached		Failure of supply voltage U_{ANA}
Mechanical data			
Dimensions (W x H x D)	12.2 x 135 x 71.5 mm	24.4 x 135 x 71.5 mm	48.8 x 135 x 71.5 mm
Protection category	IP20		
Protection class	Class 3 according to VDE 0106, IEC 60536		
Accessories	Connectors and labels included		

GoTo Focused Delivery Program: I/O

Inline – Temperature Modules

2, 4, 8 channel modules available. Can read full range of standard thermocouples and resistive inputs. Spring-cage I/O connectors utilized for easy wiring.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Pt, Ni, Cu, KTY, linear resistors can be used with RTD modules
- B, C, E, J, K, L, N, R, S, T, U, W, thermocouples can be used with UTH
- 2-, 3-wire inputs available depending on your needs

Technical Data

	R-IB IL TEMP 2 RTD-PAC	R-IB IL TEMP 2 UTH-PAC
Analog inputs		
Number	2 inputs for resistive temperature sensors	2 inputs for thermocouples or linear voltages
Usable sensor types	Pt, Ni, Cu, KTY	B, C, E, J, K, L, N, R, S, T, U, W, HK
Conversion time of A/D converter	Typ. 120 µs	Typ. 120 µs
Voltage input range	–	–15 to +85 mV
Process data update	Depending on connection method	Max. 30 ms for either channel
Both channels acc. to two-wire principle	20 ms	–
One channel acc. to two-wire principle, one channel acc. to four-wire principle	20 ms	–
Both channels acc. to three-wire principle	32 ms	–
Limit frequency of analog filter	–	48 Hz
Sensor connection type	2-, 3- or 4-wire connection	2-wire connection
Electric data		
Logic voltage U_L	7.5 V	
Power consumption from local bus U_L	Typ. 43 mA	
Peripheral supply voltage U_{ANA}	24 V DC	
Power consumption at U_{ANA}	Typ. 11 mA	
Error message to the higher level control system	Failure of supply voltage U_{ANA}, peripheral/user error	
Mechanical data		
Dimensions (W x H x D)	12.2 x 135 x 71.5 mm	
Protection category	IP20	
Protection class	Class 3 according to VDE 0106, IEC 60536	
Accessories	Connectors and labels included	

GoTo Focused Delivery Program: I/O

Inline – Communication Modules

Configurable RS-232 module.
The terminal is designed for use within an Inline station. It is used to operate standard I/O devices with serial interfaces on a bus system Parameterization and data exchange is carried out via the bus using process data.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- DTR/CTS handshake supported
- 4 KB receive buffer and 1 KB transmit buffer
- Wiring terminals easily removed to allow module replacement without rewiring
- Serial modules can be configured to read and write different frames and baud rates

Technical Data

	R-IB IL RS 232-PRO-PAC
Serial interface	
Type	V.24 interface with DTR/CTS handshake, designed as data terminal equipment (DTE), electric data acc. to EIA (RS) 232, CCITT V.28, DIN 66259 Part 1
Transmission rate adjustable to	38.4 kbaud
Receiver buffer	4 kbytes
Transmitter buffer	1 kbyte
24 V infeed for generation of U_L and U_{ANA}	
Rated value	–
Permissible range	–
24 V peripheral supply (main circuit U_M)	
Rated value	–
Permissible range	–
Permissible current	–
Electric data	
Logic voltage U_L	7.5 V
Power consumption from local bus U_L	Typ. 170 mA
Mechanical data	
Dimensions (W x H x D)	24.4 x 120 x 71.5 mm
Protection category	IP20
Protection class	Class 3 according to VDE 0106, IEC 60536
Accessories	Connectors and labels included

GoTo Focused Delivery Program: I/O

Inline – Motion and Counter Modules

Compact modules utilizing spring-cage I/O connectors. Provide the capability to do basic motion control without resorting to complex motion-controller PLCs. Step and direction control of steppers is also available.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Wiring terminals easily removed to allow module replacement without rewiring
- Inputs can read from 5 V DC to 24 V DC inputs
- Incremental and Absolute Encoder Input modules available
- CNT module can count events, calculate frequency and generate pulse streams

Technical Data

	R-IB IL CNT-PAC– counter module	R-IB IL INC-IN-PAC– incremental-encoder module	R-IB IL SSI-PAC– SSI module
Digital inputs			
Number	4	3	4
Nominal input voltage U_{In}	24 V DC		
Nominal input current U_{In}	5 mA	Typ. 2.7 mA	Typ. 5 mA
Switching output			
Number	1	–	
Digital outputs			
Number	–	1 (double assignment of input E3)	4
Nominal output voltage U_{Out}	–		24 V DC
Nominal current per output I_{Nom}	–		0.5 A
Electric data			
Logic voltage U_L	7.5 V		
Power consumption from local bus U_L	Typ. 40 mA, max. 50 mA	Max. 70 mA	Max. 60 mA
Nominal voltage U_S	24 V DC	Typ. 24 V DC	24 V DC
Nominal current consumption at U_S	Max. 1 A	Typ. 340 mA	Max. 2 A
Error message to the higher level control system	Short-circuit/overload of sensor supply		Failure or overload of encoder supply/no encoder connected/core break at one of the encoder lines
Mechanical data			
Dimensions (W x H x D)	24.4 x 135 x 71.5 mm	24.4 x 141 x 71.5 mm	48.8 x 141 x 71.5 mm
Protection category	IP20		
Protection class	Class 3 according to VDE 0106, IEC 60536		

GoTo Focused Delivery Program: I/O

IndraControl S67 – Power Divider

Feed Module – For supplying IndraControl S67 components mounted on the machine with 24 V DC for expansion of the I/O system.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Allow for one 24V DC cable run out to the machine for I/O power distribution
- IP 67 rating for harsh machine environments

Technical Data

Power Divider	**S67-PWR-IN-M12**
Connection type	M23 connectors, 6 poles
Supply voltage	
Logic and sensor voltage U_{LS}	24 V DC (–25 to +30%)
Actuator Voltage U_A	24 V DC (–25 to +30%)
Supply current	
Logic and sensor current I_{LS}	Typ. 4 mA
Actuator current I_A	Typ. 4 mA
Supply outputs	
Number	6
Connection type	M12 connectors, A coded, 4 poles
Current carrying capacity (connector)	Max. 8 A (U_{LS}: 4 A, U_A: 4 A)
Current carrying capacity (module)	Max. 24 A (U_{LS}: msx. 8 A, U_A: max. 16 A)
Short circuit protection	No
Electrical isolation	
U_{LS} – U_A	500 V DC
Ambient conditions	
Permissible temperature (operation)	–25 to +80 °C
Permissible relative humidity (operation)	5 to 95 %
Permissible air pressure (operation)	795 to 1,080 hPa
Mechanical data	
Dimensions (W x H x D)	50 x 117 x 35 mm
Dimensional drawing	Type 2
Weight	240 g
Protection class	IP67 (NEMA 6&6P), DIN40050 (EN60529)
Vibration resistance	According to IEC 60068-2-6
Shock resistance (temporary)	According to IEC 60068-2-27
LED indicators	
U_{LS} + U_A – Supply status	LED (green)
LED indicators	Non-latching

GoTo Focused Delivery Program: I/O

IndraControl S67 – Bus Coupler

IP67 Fieldbus Coupler – Mounted on the machine for connecting local I/O modules to a higher-level fieldbus system.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- 8 on board inputs included with the Profibus bus coupler
- Built in status light to troubleshoot module out on the machine
- Up to 64 I/O modules can be operated from a single Fieldbus coupler

Technical Data

Fieldbus coupler	**S67-PB-BK-DI8-M8**
Type	PROFIBUS slave
Connection type	M12 connectors, B coded, 5 poles
Tansmission speed	12 Mbit/s (automatic recognition)
Transmission medium	Copper cable
Digital inputs	
Number	8
Connection type	M8 connectors, A coded, 3 poles
Sensor connection type	2-, 3-wire connection
Input filter	Parametrizable
Input characteristic	Type 1, acc. to IEC 61131-2
Signal voltage (0)	–30 to +5 V DC
Signal voltage (1)	+11 to +30 V DC
Input circuit	High-side switching
Input voltage	24 V DC ($-30 < U_{IN} < +30$ V DC)
Input current	Typ. 2.8 mA
Cable length, unshielded	≤ 30 m
Module supply	
Connection type	M12 connectors, A coded, 4 poles
Current carrying capacity of supply connections	Max. 8 A (U_{LS}: 4 A, U_A: 4 A)
Logic and sensor voltage U_{LS}	24 V DC (–25 to +30 %)
Actuator voltage U_A	24 V DC (–25 to +30 %)
Logic and sensor current I_{LS}	Typ. 110 mA + sensor (max. 400 mA)
Actuator current I_A	5 mA
Protection	Reverse voltage protection for U_{LS} + U_A short circuit protection for sensor supply
System bus	
Number of expandable modules	63
Connection type	M12 connectors, B coded, 5 poles, shielded
Electrical isolation	
Channel – Channel	No
U_{LS}, U_A, system bus, fieldbus	500 V DC each

continued on next page

GoTo Focused Delivery Program: I/O

IndraControl S67 – Bus Coupler (continued)

Technical Data (continued)

Service interface	
Type	USB
Connection type	M8 connectors, 4 poles
Configurable functions/digital inputs	
Input filter (per channel)	0.1/0.5/3/15/20 ms/filter off
Online simulation (per channel)	Lock/unlock; simulation value: 0/1
Diagnostics (per module)	Overload and short circuit (sensor supply); Undervoltage (V_{LS} + V_A)
Process image	
Input process image	244 byte
Output process image	244 byte
Ambient conditions	
Permissible temperature (operation)	–25 to +60 °C
Permissible relative humidity (operation)	5 to 95 %
Permissible air pressure (operation)	795 to 1,080 hPa
Mechanical data	
Dimensions (W x H x D)	75 x 117 x 35 mm
Dimensional drawing	Type 1
Weight	330 g
Protection class	IP67 (NEMA 6&6P), DIN40050 (EN60529)
Vibration resistance	According to IEC 60068-2-6
Shock resistance (temporary)	According to IEC 60068-2-27
LED indicators	
RUN – Coupler initialization	LED (green/red)
DIA – PROFIBUS diagnostics	LED (red)
CS – Coupler status	LED (green/red)
BF – PROFIBUS bus error	LED (red)
BUS – PROFIBUS projecting error	LED (red)
MS – DeviceNet modul status	–
NS – DeviceNet network status	–
MBO – MAC-ID/Baud rate	–
0 ... 7 – Input status	LED (yellow)
F – Error status	LED (red)
U_{LS} + U_A – Supply status	LED (green)
SB – system bus, status	LED (green/red)
LED indicators	Non-latching

GoTo Focused Delivery Program: I/O

IndraControl S67 – Digital Input Modules

IP67 Digital Input Modules – Mounted on the machine for acquiring digital signals, e.g. buttons limit or proximity switches.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Expandable to 500 m per I/O station
- M12 and M8 connection technology in compact housing design

Digital Inputs

Technical data	S67-DI8-M8	S67-DI8-M12
Digital inputs		
Number	8	4
Connection type	M8 connectors, A coded, 3 poles	M12 connectors, A coded, 5 poles
Sensor connection type	2-, 3-wire connection	2-, 3-wire connection
Input filter	Parametrizable	Parametrizable
Input characteristic	Type 2, acc. to IEC 61131-2	Type 2, acc. to IEC 61131-2
Signal voltage (0)	–30 to +5 V DC	–30 to +5 V DC
Signal voltage (1)	+11 to +30 V DC	+11 to +30 V DC
Input circuit	High-side switching	High-side switching
Input voltage	24 VDC (–30 V DC < U_{IN} < +30 V DC)	24 VDC (–30 V DC < U_{IN} < +30 V DC)
Input current	Typ. 7.3 mA	Typ. 7.3 mA
Cable length, unshielded	≤ 30 m	≤ 30 m
Module supply		
Connection type	M12 connectors, A coded, 4 poles	M12 connectors, A coded, 4 poles
Current carrying capacity of supply connections	Max. 8 A (U_{LS}: 4 A, U_A: 4 A)	Max. 8 A (U_{LS}: 4 A, U_A: 4 A)
Logic and sensor voltage U_{LS}	24 V DC	24 V DC
Actuator voltage U_A	24 V DC	24 V DC
Logic and sensor current I_{LS}	Typ. 40 mA + sensor (max. 400 mA)	Typ. 40 mA + sensor (max. 400 mA)
Actuator current I_A	5 mA	5 mA
Protection	Reverse voltage protection for U_{LS} + U_A short circuit protection for sensor supply	Reverse voltage protection for U_{LS} + U_A short circuit protection for sensor supply
System bus		
Connection type	M12 connectors, B coded, 5 poles, shielded	M12 connectors, B coded, 5 poles, shielded
Electrical isolation		
Channel – Channel	No	No
U_{LS}, U_A, system bus	500 V DC each	500 V DC each

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GoTo Focused Delivery Program: I/O

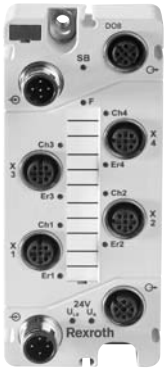
IndraControl S67 – Digital Input Modules (continued)

Digital Inputs (continued)

Configurable functions		
Input filter (per channel)	0.1/0.5/3/15/20 ms/filter off	0.1/0.5/3/15/20 ms/filter off
Online simulation (per channel)	Lock/unlock; simulation value: 0/1	Lock/unlock; simulation value: 0/1
Diagnostics (per module)	Overload and short circuit (sensor supply), Undervoltage (U_{LS} + U_A)	Overload and short circuit (sensor supply), Undervoltage (U_{LS} + U_A)
Process image		
Process data width	1 byte data + status	1 byte data + status
Ambient conditions		
Permissible temperature (operation)	–25 to +60 °C	–25 to +60 °C
Permissible relative humidity (operation)	5 to 95 %	5 to 95 %
Permissible air pressure (operation)	795 to 1,080 hPa	795 to 1,080 hPa
Mechanical data		
Dimensions (W x H x D)	50 x 117 x 35 mm	50 x 117 x 35 mm
Dimensional drawing	Type 2	Type 2
Weight	230 g	230 g
Protection class	IP67 (NEMA 6&6P), DIN40050 (EN60529)	IP67 (NEMA 6&6P), DIN40050 (EN60529)
Vibration resistance	According to IEC 60068-2-6	According to IEC 60068-2-6
Shock resistance (temporary)	According to IEC 60068-2-27	According to IEC 60068-2-27
LED indicators		
0 ... 7 – Input status	LED (yellow)	LED (yellow)
F – Error status	LED (red)	LED (red)
U_{LS} + U_A – Supply status	LED (green)	LED (green)
SB – system bus, status	LED (green/red)	LED (green/red)
LED indicators	Non-latching	Non-latching

GoTo Focused Delivery Program: I/O

IndraControl S67 – Digital Output Modules



IP67 Digital Output Modules –Mounted on the machine for outputting digital signals, e.g. status lights or actuators.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Expandable to 500 m per I/O station
- M12 and M8 connection technology in compact housing design

Digital Outputs

Technical data	S67-DO8-M8	S67-DO8-M12	S67-DO8-M8-2A	S67-DO8-M12-2A
Digital outputs				
Number	8	8	8	8
Connection type	M8 connectors, 3 poles	M12 connectors, 5 poles	M8 connectors, 3 poles	M12 connectors, 5 poles
Sensor connection type	2-, 3-wire connection	2-, 3-wire connection	2-, 3-wire connection	2-, 3-wire connection
Output voltage	≤ U_A	≤ U_A	≤ U_A	≤ U_A
Output current (per channel)	0.5 A (max. 0.6 A), short-circuit/overload proof (thermal disconnection)	0.5 A (max. 0.6 A), short-circuit/overload proof (thermal disconnection)	2.0 A (max. 2.4 A), short-circuit/overload proof (thermal disconnection)	0.5 A (max. 0.6 A), short-circuit/overload proof (thermal disconnection)
Voltage drop against U_A at 500 mA	Max. 0.2 V DC	Max. 0.2 V DC	Max. 0.2 V DC	Max. 0.2 V DC
Output current (module)	Max. 4 A	Max. 4 A	Max. 8 A	Max. 8 A
Switching-on of overload circuit	Parametrizable	Parametrizable	Parametrizable	Parametrizable
Output circuit	High-side switching	High-side switching	High-side switching	High-side switching
Module supply				
Connection type	M12 connectors, A coded, 4 poles	M12 connectors, A coded, 4 poles	M12 connectors, A coded, 4 poles	M12 connectors, A coded, 4 poles
Current carrying capacity of supply connections	Max. 8 A (U_{LS}: 4 A, U_A: 4 A)	Max. 8 A (U_{LS}: 4 A, U_A: 4 A)	Max. 8 A (U_{LS}: 4 A, U_A: 4 A)	Max. 8 A (U_{LS}: 4 A, U_A: 4 A)
Logic and sensor voltage U_{LS}	24 V DC	24 V DC	24 V DC	24 V DC
Actuator voltage U_A	24 V DC	24 V DC	24 V DC	24 V DC
Logic and sensor current I_{LS}	Typ. 45 mA (only logic part)	Typ. 45 mA (only logic part)	Typ. 45 mA (only logic part)	Typ. 45 mA (only logic part)
Actuator current I_A	Typ. 25 mA + actuators	Typ. 25 mA + actuators	Typ. 25 mA + actuators	Typ. 25 mA + actuators
Protection	Reverse voltage protection for U_{LS} + U_A	Reverse voltage protection for U_{LS} + U_A	Reverse voltage protection for U_{LS} + U_A	Reverse voltage protection for U_{LS} + U_A
Information on selecting the actuator				
Rise time from 0 to 1	Typ. 40 µs (resistive load)	Typ. 40 µs (resistive load)	Typ. 30 µs (resistive load)	Typ. 30 µs (resistive load)
Rise time from 1 to 0	Typ. 50 µs (resistive load)	Typ. 50 µs (resistive load)	Typ. 50 µs (resistive load)	Typ. 50 µs (resistive load)
Cable length (unshielded)	≤ 30 m	≤ 30 m	≤ 30 m	≤ 30 m

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GoTo Focused Delivery Program: I/O

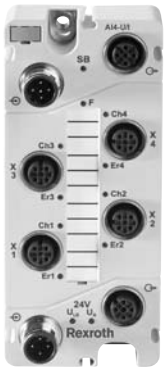
IndraControl S67 – Digital Output Modules (continued)

Digital Outputs (continued)

System bus				
Connection type	M12 connectors, B coded, 5 poles, shielded	M12 connectors, B coded, 5 poles, shielded	M12 connectors, B coded, 5 poles, shielded	M12 connectors, B coded, 5 poles, shielded
Electrical isolation				
Channel . Channel	No	No	No	No
U_{LS}, U_A, system bus	500 V DC each	500 V DC each	500 V DC each	500 V DC each
Configurable functions				
Substitute value strategy (per channel)	Switch substitute value/ hold last value	Switch substitute value/ hold last value	Switch substitute value/ hold last value	Switch substitute value/ hold last value
Substitute value (per channel)	0/1 (Default: 0)	0/1 (Default: 0)	0/1 (Default: 0)	0/1 (Default: 0)
Online simulation (per channel)	Lock/unlock; simulation value: 0/1	Lock/unlock; simulation value: 0/1	Lock/unlock; simulation value: 0/1	Lock/unlock; simulation value: 0/1
Diagnostics (per channel)	Short circuit, wire break (actuators)	Short circuit, wire break (actuators)	Short circuit, wire break (actuators)	Short circuit, wire break (actuators)
Diagnostics (per module)	Undervoltage (U_{LS} + U_A)	Undervoltage (U_{LS} + U_A)	Undervoltage (U_{LS} + U_A)	Undervoltage (U_{LS} + U_A)
Process image				
Process data width	1 byte data + status	1 byte data + status	1 byte data + status	1 byte data + status
Ambient conditions				
Permissible temperature (operation)	–25 to +60 °C	–25 to +60 °C	–25 to +60 °C	–25 to +60 °C
Permissible relative humidity (operation)	5 to 95 %	5 to 95 %	5 to 95 %	5 to 95 %
Permissible air pressure (operation)	795 to 1,080 hPa	795 to 1,080 hPa	795 to 1,080 hPa	795 to 1,080 hPa
Mechanical data				
Dimensions (W x H x D)	50 x 117 x 35 mm	50 x 117 x 35 mm	50 x 117 x 35 mm	50 x 117 x 35 mm
Dimensional drawing	Type 2	Type 2	Type 2	Type 2
Weight	230 g	230 g	230 g	230 g
Protection class	IP67 (NEMA 6&6P), DIN40050 (EN60529)	IP67 (NEMA 6&6P), DIN40050 (EN60529)	IP67 (NEMA 6&6P), DIN40050 (EN60529)	IP67 (NEMA 6&6P), DIN40050(EN60529)
Vibration resistance	According to IEC 60068-2-6	According to IEC 60068-2-6	According to IEC 60068-2-6	According to IEC 60068-2-6
Shock resistance (temporary)	According to IEC 60068-2-27	According to IEC 60068-2-27	According to IEC 60068-2-27	According to IEC 60068-2-27
LED indicators				
0 ... 7 – Input status	LED (yellow/red)	LED (yellow/red)	LED (yellow/red)	LED (yellow/red)
F – Error status	LED (red)	LED (red)	LED (red)	LED (red)
U_{LS} + U_A – Supply status	LED (green)	LED (green)	LED (green)	LED (green)
SB – System bus, status	LED (green/red)	LED (green/red)	LED (green/red)	LED (green/red)
LED indicators	Non-latching	Non-latching	Non-latching	Non-latching

GoTo Focused Delivery Program: I/O

IndraControl S67 – Analog Input Modules



IP67 Analog Input Modules – Mounted on the machine for acquiring analog signals from standard sensors, e.g. temperature or pressure sensors.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Extremely fast cycle times thanks to optimized data transmission
- Largest measuring range compared to competitive equivalent

Analog Inputs

Technical data	S67-AI4-U/I-M12
Analog inputs	
Number	4
Connection type	M12 connectors, A coded, 5 poles
Type of signal	Currents and voltages (differencial inputs)
Sensor connection type	2- to 4-wire connection (external shield via knurled nut)
Measuring range	0 to 20 mA, 4 to 20 mA, ±20 mA, 0 to 10 V, ±10 V
Cable length	≤ 30 m
Analog value creation	
Resolution	16 bit
Conversion time	1 ms
Sampling delay	1 ms (Modul), < 100 µs (channel/channel)
Sampling repeat time	1 ms
Failures and errors	
Max. measuring error at 25 °C	ca. ±0.2 % the measuring range
Temperature error	ca. ±0.01 % the measuring range/K
Module supply	
Connection type	M12 connectors, A coded, 4 poles
Logic and sensor voltage U_{LS}	24 V DC
Actuator voltage, U_A	24 V DC
Logic and sensor current I_{LS}	Typ. 50 mA + sensor (max. 400 mA)
Actuator current I_A	5 mA
Protection	Reverse voltage protection for U_{LS} + U_A short circuit protection for sensor supply
System bus	
Connection type	M12 connectors, B coded, 5 poles, shielded
Electrical isolation	
Channel – Channel	No
U_{LS}, U_A, system bus	500 V DC each

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GoTo Focused Delivery Program: I/O

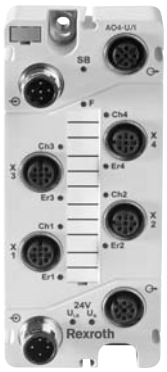
IndraControl S67 – Analog Input Modules (continued)

Analog Inputs (continued)

Configurable functions	
Measuring range (per channel)	0 to 20 mA, 4 to 20 mA, ±20 mA, 0 to 10 V, ±10 V
Limiting values (per channel)	Lock/unlock
Input filter (per channel)	Low pass
Sampling duration (per channel)	1, 2, 4, 8 ms
Interference frequency suppression (per channel)	50/60 Hz
Online simulation (per channel)	Lock/unlock, simulation value (according to measuring range)
Configurable functions	
Diagnostics (per module)	Undervoltage (U_{LS} + U_A) Short circuit (sensor power supply) Wire break (sensor power supply) Limit value violation Overrange/measuring range underflow
Process image	
Process data width	8 byte data + status
Ambient conditions	
Permissible temperature (operation)	–25 to +60 °C
Permissible relative humidity (operation)	5 to 95 %
Permissible air pressure (operation)	795 to 1,080 hPa
Mechanical data	
Dimensions (W x H x D)	50 x 177 x 35 mm
Dimensional drawing	Type 2
Weight	230 g
Protection class	IP67 (NEMA 6&6P), DIN40050 (EN60529)
Vibration resistance	According to IEC 60068-2-6
Shock resistance (temporary)	According to IEC 60068-2-27
LED indicators	
Ch1 to Ch4 – Input signal status	LED (yellow)
Er1 to Er4 – Input signal error	LED (red)
F – Error status	LED (red)
U_{LS} + U_A – Supply status	LED (green)
SB – System bus, status	LED (green/red)
LED indicators	Non-latching

GoTo Focused Delivery Program: I/O

IndraControl S67 – Analog Output Modules



IP67 Analog Output Modules – Mounted on the machine for outputting analog signals for external controls.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Online simulation
- Event driven signal substitution
- Largest measuring range compared to competition

Analog Outputs

Technical data	S67-AO4-U/I-M12
Analog outputs	
Number	4
Connection type	M12 connectors, A coded, 5 poles
Type of signal	Currents and voltages
Sensor connection type	2- to 4-wire connection (external shield via knurled nut)
Measuring range	0 to 20 mA, 4 to 20 mA, ±20 mA, 0 to 10 V, ±10 V
Output load (load impedance)	≤ 500 Ω (current) ; ≥ 5 kΩ (voltage)
Maximum capacitive load (at voltage outputs)	10 nF
Maximum inductive load (at current outputs)	1 mH
Cable length	≤ 30 m
Analog value creation	
Resolution	15 bit (unipolar), 16 bit (bipolar)
Monotony	Yes
Cycle time	Typ. 1 ms
Recovery time for resistive, inductive and capacitive loads	Typ. 1 ms
Failures and errors	
Max. measuring error at 25 °C	≤ ±0.2 % the measuring range
Overshooting	Typ. ±0.05 % the measuring range
Output ripple	Typ. ±0.02 % the measuring range
Crosstalk between the channels at DC voltage and AC voltage 50 Hz and 60 Hz	–90 dB
Short circuit protection	Electronic
Nominal output current	Max. 1 A

continued on next page

GoTo Focused Delivery Program: I/O

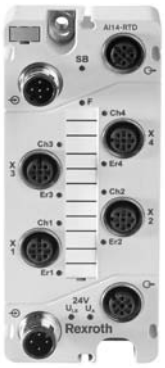
IndraControl S67 – Analog Output Modules (continued)

Analog Outputs (continued)

Module supply	
Connection type	M12 connectors, A coded, 4 poles
Logic and sensor voltage U_{LS}	24 V DC
Actuator voltage U_A	24 V DC
Logic and sensor current I_{LS}	Typ. 28 mA (only logic part)
Actuator current I_A	34 mA + actuators
Protection	Reverse voltage protection for U_{LS} + U_A, overload and short circuit protection for sensor supply
System bus	
Connection type	M12 connectors, B coded, 5 poles, shielded
Electrical isolation	
Channel . Channel	No
ULS, UA, system bus	500 VDC each
Configurable functions	
Measuring range (per channel)	0 to 20 mA, 4 to 20 mA, ±20 mA, 0 to 10 V, ±10 V
Substitute value strategy (per channel)	Switch substitute value/hold last value
Substitute value (per channel)	0 mA or 0 V/substitute value according to measuring range (Default: 0 mA or 0 V)
Online simulation (per channel)	Lock/unlock, simulation value (according to measuring range)
Diagnostics (per module)	Short circuit (actuator supply), wire break (current), undervoltage (U_{LS} + U_A)
Process image	
Process data width	8 byte data + status
Ambient conditions	
Permissible temperature (operation)	–25 to +60 °C
Permissible relative humidity (operation)	5 to 95 %
Permissible air pressure (operation)	795 to 1,080 hPa
Mechanical data	
Dimensions (W x H x D)	50 x 117 x 35 mm
Dimensional drawing	Type 2
Weight	230 g
Protection class	IP67 (NEMA 6&6P), DIN40050 (EN60529)
Vibration resistance	According to IEC 60068-2-6
Shock resistance (temporary)	According to IEC 60068-2-27
LED indicators	
Ch1 to Ch4 – Input signal status	LED (yellow)
Er1 to Er4 – Input signal error	LED (red)
F – Error status	LED (red)
U_{LS} + U_A – Supply status	LED (green)
SB – System bus, status	LED (green/red)
LED indicators	Non-latching

GoTo Focused Delivery Program: I/O

IndraControl S67 – Temperature Modules



IP67 RTD Signal Input Modules – Mounted on the machine for analog signals from temperature sensors.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Features

- Configurable diagnostic threshold
- Online simulation
- Largest measuring range compared to competition

Temperature Modules

Technical data	S67-AI4-RTD-M12
Analog inputs	
Number	4
Connection type	M12 connectors, A coded, 5 poles
Type of signal	Resistance thermometers, resistors, potentiometers
Sensor connection type	2- to 4-wire connection (external shield via knurled nut)
Signal measuring range	Resistance thermometer: PT100, PT200, PT500, PT1000, NI100, NI120, NI1000; Resistors: 1 kΩ and 4 kΩ; Potentiometer: 0 to 100 % setting angle (for 1.25 kΩ and 4 kΩ); Free characteristics: PT 3000, NTC etc.
Temperature range	PT: –200 to +850 °C, NI: –60 to +250 °C
Cable length	≤ 30 m
Analog value creation	
Resolution	16 bit
Input filter	16.7 Hz, 33 Hz, 50 Hz, 60 Hz, 120 Hz, 250 Hz, 500 Hz
Failures and errors	
Max. measuring error at 25 °C	±0.1 % the measuring range
Temperature error	±0.001 % the measuring range/K
Module supply	
Connection type	M12 connectors, A coded, 4 poles
Logic and sensor voltage U_{LS}	24 V DC
Actuator voltage, U_A	24 V DC
Logic and sensor current I_{LS}	Typ. 40 mA + sensor (max. 400 mA)
Actuator current I_A	5 mA
Protection	Reverse voltage protection for U_{LS} + U_A short circuit protection for sensor supply
System bus	
Connection type	M12 connectors, B coded, 5 poles, shielded
Electrical isolation	
Channel – Channel	No
U_{LS}, U_A, system bus	500 V DC each

continued on next page

GoTo Focused Delivery Program: I/O

IndraControl S67 – Temperature Modules (continued)

Temperature Modules (continued)

Configurable functions	
Measuring range (per channel)	PT100, PT200, PT500, PT1000, NI100, NI120, NI1000; Resistors: 1 kΩ and 4 kΩ; Potentiometer: 0 to 100 % setting angle (for 1 kΩ and 4 kΩ); Free characteristics: PT 3000, NTC
Connection type	2-, 3-, 4-wire connection
Limiting values (per channel)	Lock/unlock, Min1/Min2/Max1/Max2
Input filter (per channel)	16.7 Hz, 33 Hz, 50 Hz, 60 Hz, 120 Hz, 250 Hz, 500 Hz
Configurable functions	
Diagnostics (per module)	Undervoltage (U_{LS} + U_A) Wire break (sensor power supply) Limit value violation Overrange/measuring range underflow
Process image	
Process data width	8 byte data + status
Ambient conditions	
Permissible temperature (operation)	–25 to +60 °C
Permissible relative humidity (operation)	5 to 95 %
Permissible air pressure (operation)	795 to 1,080 hPa
Mechanical data	
Dimensions (W x H x D)	50 x 177 x 35 mm
Dimensional drawing	Type 2
Weight	230 g
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Vibration resistance	According to IEC 60068-2-6
Shock resistance (temporary)	According to IEC 60068-2-27
LED indicators	
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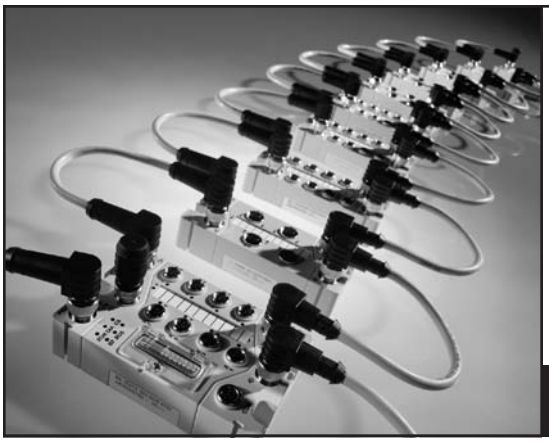
Er1 to Er4 – Input signal error	LED (red)
F – Error status	LED (red)
U_{LS} + U_A – Supply status	LED (green)
SB – System bus, status	LED (green/red)
LED indicators	Non-latching

GoTo Focused Delivery Program: I/O

IndraControl S67 – Cabling



IP67 ready-made cables for easy system connectivity on the machine.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToIO

Technical Data

S67 Profibus Cables	Type code	Length
Bus cable PROFIBUS DP, shielded, 5-pin, PUR M12 plug, straight, B-coded – open end	IKB0048/005.0	5.0 m
Bus cable PROFIBUS DP, shielded, 5-pin, PUR M12 socket, straight, B-coded – open end	IKB0049/005.0	5.0 m
Bus cable PROFIBUS DP, shielded, 5-pin, PUR M12 plug, straight, B-coded – M12 socket, straight, B-coded	IKB0050/000.3	0.3 m
M12 terminating resistor, PROFIBUS, 5 pins, B-coded	INS0762/CNN	
Voltage and System Bus Cables		
Voltage cable, unshielded 4-pin, 0.75 mm^2, PUR M12 socket, straight, A-coded – open end	RKB0047/005.0	5.0 m
Voltage cable, not shielded, 4-pin, 0.75 mm^2, PUR M12 connector, straight, A-coded – M12 socket, straight, A-coded	RKB0046/000.2	0.2 m
Systembus cable, M12 plug, M12 connector	RKB0041/000.2	0.2 m
new in GoTo Systembus termination plug, M12 connector	RBS0020/CNN	

GoTo Focused Delivery Program: HMI

Standard HMI

Operator Terminals with small footprints to save on panel space. Can connect to a number of 3rd party products. Recipes and other powerful capabilities available.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToHMI

Features

- Pushbutton and Touchscreen available
- Color and Greyscale available
- All terminals have Ethernet and USB ports

Technical Data

	VCP 02	VCP 05	VCP 08	VCP 11	VCP 25	VCP 35
Display	FSTN			FSTN-Touch	STN-color-Touch	TFT-Touch
	5 grey tones			5 grey tones	125 colors	65,535 colors
	3"	3"	3.8"	3.8"	5.7"	10.4"
Resolution	160 x 80	160 x 80	320 x 240	320 x 240	320 x 240, 1/4 VGA	640 x 480
Keyboard/touch	Foil keys			Touchscreen	Touchscreen	Touchscreen
Application memory	3 MB					
Flash memory	16 MB					
Slot for expansions	1					
Line voltage	24 V DC					
Interfaces*	1 x Ethernet TCP/IP, 2 x USB host					
Front protection degree	IP65					
Dimensions (W x H x D)	144 x 96 x 58 mm	120 x 168 x 55 mm	155 x 205 x 55 mm	130 x 96 x 55 mm	203 x 147 x 66 mm	328 x 249 x 60 mm

*Additional communication options available, but not covered by GoTo program

GoTo Focused Delivery Program: HMI

WinCE-based HMI

Powerful HMIs with great networking and 3rd party connectivity. Recipes, trending and other MES-like functionality available and easily implemented.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToHMI

Features

- Touchscreens
- Mulitple ports including USB, Ethernet, Serial and Profibus available onboard
- WinCE platform allows for connection to any product that supports OPC

Technical Data

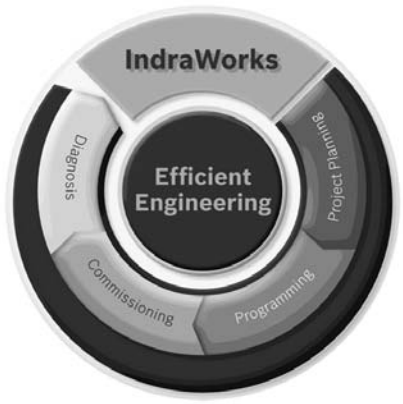
	VEP 30.4	VEP 40.4	VEP 50.4
Display	8.4" – TFT	12.1" – TFT	15" – TFT
Resolution	800 x 600, SVGA	800 x 600, SVGA	1,024 x 768, XGA
Touchscreen	Yes		
Processor	Intel Atom Prozessor 1,1 GHz.		
RAM	1 GB		
Compact flash	2 CF-Sockel, Standard 1 GB CF-Card , or optional 4 GB CF-Card		
Module slots	–		
USB	3 (1 x Front)		
Ethernet TCP/IP	1		
Supply voltage	24 V DC		
Operating system	Windows CE 6.0.NET		
Approvals	CE/UL/CSA		
Front protection degree	IP65		
Dimensions (W x H x D)	296 x 200 x 53 mm	350 x 290 x 51 mm	407 x 370 x 53 mm

Firmware	
FWA-VEP*04-CWN-10VRS-D0-A*	Windows CE 6.0.NET and WinStudio 7 Lite Runtime License

Software	
SWS-WINSTU-RUN-07VRS-D0-WCE1K5	WinStudio 7 Runtime, single license 1,500 tags

GoTo Focused Delivery Program: Software

IndraWorks



IndraWorks – a complete software suite can program HMIs, PLCs, drives and I/O systems in one IEC61131-3 environment.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToSoftware

Features

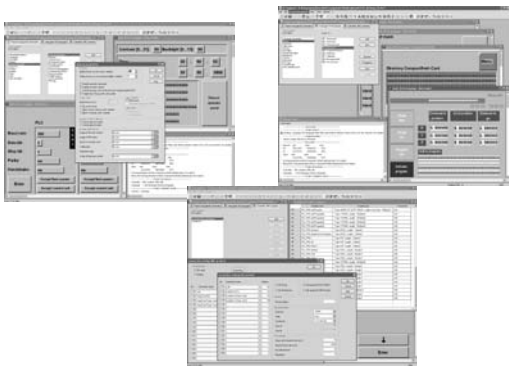
Rexroth IndraWorks allows you to solve all tasks in a uniform and intuitive software environment—from project planning and programming to visualization and diagnostics.

The uniform engineering framework IndraWorks is consistently available for all systems from the Rexroth Automation House. You, as a user, profit from the fast and transparent access to all functions and system data of the automation components. The standardized tools and interfaces help you to solve all engineering tasks centrally with a single piece of software.

Your benefits:
- Available for all systems and solutions from the Rexroth Automation House
- Integrated framework for all engineering tasks
- Consistent operating environment for project planning, programming, visualization and diagnostics
- Central project management with intuitive system navigation
- Intelligent operation with wizard support
- Comprehensive online help
- Uniform programming according to the PLC standard IEC 61131-3
- PLCopen-conforming function block and technology libraries
- Standardized interfaces for communication
- Transparent access to all system components
- Integrated FDT/DTM interface for integration of the DTM of third party manufacturers
- Software programs all Bosch Rexroth PLCs and VEP HMIs
- Optional IndraWorks Tool CamBuilder for IndraMotion available

GoTo Focused Delivery Program: Software

VI-Composer



VI-Composer—efficient programming of your application in a convenient development environment.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToSoftware

Features

VI-Composer is an easy but powerful project development tool for the visualization and parameterization of system-related data of the IndraControl VCP and VCH devices. In this convenient development environment, you can efficiently create your individual application, based on the usual Windows look-and-feel. The programming result can then be used on the various IndraControl VCP and VCH devices as often as desired.

The fully graphical VI-Composer software allows you to develop projects for IndraControl VCP and VCH devices according to the WYSIWYG (What You See Is What You Get) principle: text, variables and graphics are immediately represented just as they will be displayed by the IndraControl VCP and VCH devices. Predefined masks and comprehensive graphics libraries with numerous industry-compatible screen objects facilitate the creation of your applications. Based on Windows-conforming operation, you describe all variables depending on the particular control, whereas masks, graphics, recipes and the like can be created independently of any control. VI-Composer provides direct access to the IndraWorks database and, thus, to all variables of the controls and drives. The performance is completed by comprehensive help functions. The VCP HMIs are programmed via the VI-Composer.

Your benefits:
- Language management of the application with up to 16 languages
- Messaging and recording system
- Font editor for creating your own character sets
- Easy graphics incorporation via OLE
- Direct access to all control and drive variables
- Project and firmware download for reloadable functions
- Integrated creation of documentation and online help
- Predefined masks, curves and bar graphs
- Definition of free menu structures
- Screen elements: texts, variables, graphics, switches, buttons, drop-down list boxes, tables, etc.

GoTo Focused Delivery Program: Part Numbers

Page Number	Part Number	Product Type	Material Description	Max. Qty.	Shipment (Days)
		Drive Systems			
		IndraDrive Cs			
7	***new*** R911328455	Drive	HCS01.1E-W0013-A-02-B-ET-EC-EC-NN-NN-FW	5	5
7	R911325247	Drive	HCS01.1E-W0018-A-03-B-ET-EC-NN-NN-NN-FW	5	5
7	R911325248	Drive	HCS01.1E-W0028-A-03-B-ET-EC-NN-NN-NN-FW	5	5
		Firmware options			
7	R911325610	Drive Firmware	FWA-INDRV*-MPB-16VRS-D5-1-ALL-NN	5	5
7	R911333290	Drive Firmware	FWA-INDRV*-MPB-17VRS-D5-1-ALL-ML	5	5
7	R911333280	Drive Firmware	FWA-INDRV*-MPB-17VRS-D5-1-ALL-NN	5	5
7	R911333283	Drive Firmware	FWA-INDRV*-MPB-17VRS-D5-1-NNN-NN	5	5
7	R911333284	Drive Firmware	FWA-INDRV*-MPB-17VRS-D5-1-SNC-NN	5	5
		IndraDrive C			
8	R911298371	Power Section	HCS02.1E-W0012-A-03-NNNN	5	10
8	R911298374	Power Section	HCS02.1E-W0028-A-03-NNNN	5	10
8	R911298373	Power Section	HCS02.1E-W0054-A-03-NNNN	5	10
8	R911298372	Power Section	HCS02.1E-W0070-A-03-NNNN	5	10
9	R911305274	Control Section	CSB01.1N-AN-ENS-NNN-NN-S-NN-FW	5	10
9	***new*** R911312378	Control Section	CSB01.1C-CO-ENS-NNN-NN-S-NN-FW	5	10
9	R911327307	Control Section	CSB01.1C-ET-ENS-EN2-NN-S-NN-FW	5	10
9	R911326813	Control Section	CSB01.1C-ET-ENS-NNN-NN-S-NN-FW	5	10
9	***new*** R911328178	Control Section	CSH01.1C-ET-ENS-NNN-NNN-S2-S-NN-FW	5	10
9	***new*** R911305273	Control Section	CSB01.1N-FC-NNN-NNN-NN-S-NN-FW	5	10
9	***new*** R911305275	Control Section	CSB01.1N-PB-ENS-NNN-NN-S-NN-FW	5	10
9	***new*** R911305278	Control Section	CSB01.1C-PB-ENS-NNN-NN-S-NN-FW	5	10
9	***new*** R911307286	Control Section	CSB01.1C-PL-ENS-NNN-NN-S-NN-FW	5	10
9	R911305276	Control Section	CSB01.1N-SE-ENS-NNN-NN-S-NN-FW	5	10
9	***new*** R911305277	Control Section	CSB01.1C-SE-ENS-NNN-NN-S-NN-FW	5	10
9	R911305500	Control Section	CSB01.1C-SE-ENS-EN2-NN-S-NN-FW	5	10
9	***new*** R911313871	Control Section	CSB01.1C-S3-ENS-NNN-NN-S-NN-FW	5	10
9	***new*** R911328086	Control Section	CSB01.1C-S3-ENS-NNN-L2-S-NN-FW	5	10
9	***new*** R911315253	Control Section	CSB01.1C-S3-ENS-EN2-NN-S-NN-FW	5	10
9	***new*** R911312309	Control Section	CSH01.1C-S3-ENS-NNN-NNN-NN-S-NN-FW	5	10
9	***new*** R911328094	Control Section	CSH01.1C-S3-EN2-NNN-NNN-S2-S-NN-FW	5	10
10	R911296958	Software Module	PFM02.1-016-FW	10	10

GoTo Focused Delivery Program: Part Numbers

Page Number	Part Number	Product Type	Material Description	Max. Qty.	Shipment (Days)
		IndraDrive C continued			
		Firmware options			
10	***new*** R911328698	Drive Firmware	FWA-INDRV*-MPB-07VRS-D5-0-NNN-NN	5	10
10	R911318477	Drive Firmware	FWA-INDRV*-MPB-05VRS-D5-1-NNN-NN	5	10
10	R911318479	Drive Firmware	FWA-INDRV*-MPB-05VRS-D5-1-SNC-NN	5	10
10	R911328706	Drive Firmware	FWA-INDRV*-MPB-07VRS-D5-1-NNN-NN	5	10
10	R911328708	Drive Firmware	FWA-INDRV*-MPB-07VRS-D5-1-SNC-NN	5	10
		MLD master			
9	***new*** R911327303	Control Section	CSH01.3C-ET-ENS-NNN-CCD-NN-S-NN-FW	5	10
9	***new*** R911328005	Control Section	CSH01.3C-ET-ENS-NNN-CCD-S2-S-NN-FW	5	10
9	***new*** R911328912	Control Section	CSH01.3C-NN-ENS-NNN-CCD-NN-S-NN-FW	5	10
9	***new*** R911326825	Control Section	CSH01.3C-NN-ENS-EN2-CCD-NN-S-NN-FW	5	10
9	***new*** R911327681	Control Section	CSH01.3C-PL-ENS-EN2-CCD-NN-S-NN-FW	1	10
10	R911328762	Drive Firmware	FWA-INDRV*-MPC-07VRS-D5-1-SNC-ML	5	10
10	***new*** R911328767	Drive Firmware	FWA-INDRV*-MPC-07VRS-D5-1-ALL-MA	5	10
10	R911296958	Software Module	PFM02.1-016-FW	10	10
		IndraDyn S			
11	***new*** R911308683	MSK – Motor	MSK030C-0900-NN-M1-UG0-NNNN	3	10
11	***new*** R911308684	MSK – Motor	MSK030C-0900-NN-M1-UG1-NNNN	3	10
11	***new*** R911308691	MSK – Motor	MSK030C-0900-NN-M1-UP0-NNNN	3	10
11	***new*** R911308692	MSK – Motor	MSK030C-0900-NN-M1-UP1-NNNN	3	10
11	***new*** R911306058	MSK – Motor	MSK040B-0600-NN-M1-UG0-NNNN	3	10
11	***new*** R911306059	MSK – Motor	MSK040B-0600-NN-M1-UG1-NNNN	3	10
11	R911320614	MSK - Motor	MSK040C-0450-NN-M1-UP0-NNNN	3	10
11	R911320757	MSK - Motor	MSK040C-0450-NN-M1-UP1-NNNN	3	10
11	***new*** R911306060	MSK - Motor	MSK040C-0600-NN-M1-UG0-NNNN	3	10
11	***new*** R911306061	MSK - Motor	MSK040C-0600-NN-M1-UG1-NNNN	3	10
11	R911306387	MSK - Motor	MSK040C-0600-NN-M1-UP0-NNNN	3	10
11	R911306388	MSK - Motor	MSK040C-0600-NN-M1-UP1-NNNN	3	10
11	R911306383	MSK - Motor	MSK040C-0600-NN-S1-UP0-NNNN	3	10
11	***new*** R911299914	MSK - Motor	MSK050C-0600-NN-M1-UP0-NNNN	3	10
11	***new*** R911299915	MSK - Motor	MSK050C-0600-NN-M1-UP1-NNNN	3	10
11	R911307221	MSK - Motor	MSK060C-0300-NN-M1-UP0-NNNN	3	10
11	***new*** R911307222	MSK - Motor	MSK060C-0300-NN-M1-UP1-NNNN	3	10
11	R911317019	MSK - Motor	MSK061C-0600-NN-M1-UP0-NNNN	3	10
11	***new*** R911317757	MSK - Motor	MSK061C-0600-NN-M1-UP1-NNNN	3	10
11	***new*** R911312032	MSK - Motor	MSK061C-0600-NN-S1-UG0-NNNN	3	10
11	***new*** R911311899	MSK - Motor	MSK071E-0300-NN-M1-UP0-NNNN	3	10
11	***new*** R911313947	MSK - Motor	MSK071E-0300-NN-M1-UP1-NNNN	3	10
11	***new*** R911310383	MSK - Motor	MSK071E-0450-NN-M1-UG0-NNNN	3	10
11	***new*** R911311789	MSK - Motor	MSK071E-0450-NN-M1-UG1-NNNN	3	10
11	R911316339	MSK - Motor	MSK076C-0300-NN-M1-UP0-NNNN	3	10

GoTo Focused Delivery Program: Part Numbers

Page Number	Part Number	Product Type	Material Description	Max. Qty.	Shipment (Days)
		IndraDyn S continued			
11	***new*** R911317624	MSK – Motor	MSK076C-0300-NN-M1-UP1-NNNN	3	10
11	***new*** R911315350	MSK – Motor	MSK100B-0300-NN-M1-BP0-NNNN	2	10
11	***new*** R911316856	MSK – Motor	MSK100B-0300-NN-M1-BP1-NNNN	2	10
11	***new*** R911311545	MSK – Motor	MSK100C-0300-NN-M1-BP0-NNNN	2	10
11	***new*** R911317729	MSK – Motor	MSK100C-0300-NN-M1-BP2-NNNN	2	10
11	***new*** R911311852	MSK – Motor	MSK101D-0450-NN-M1-BP0-NNNN	2	10
11	***new*** R911333387	MSK – Motor	MSK101D-0450-NN-M1-BP2-NNNN	2	10
13	***new*** R911325131	MSM – Motor	MSM019B-0300-NN-M0-CH0	3	10
13	***new*** R911325132	MSM – Motor	MSM019B-0300-NN-M0-CH1	3	10
13	***new*** R911325135	MSM – Motor	MSM031B-0300-NN-M0-CH0	3	10
13	***new*** R911325139	MSM – Motor	MSM031C-0300-NN-M0-CH0	3	10
13	***new*** R911325140	MSM – Motor	MSM031C-0300-NN-M0-CH1	3	10
13	***new*** R911325143	MSM – Motor	MSM041B-0300-NN-M0-CH0	3	10
13	***new*** R911325144	MSM – Motor	MSM041B-0300-NN-M0-CH1	3	10
		Additional Components			
14	R911286918	Line Filter	NFD03.1-480-016	2	3
14	R911286919	Line Filter	NFD03.1-480-030	2	3
14	R911286920	Line Filter	NFD03.1-480-055	2	3
14	R911306007	Basic Kit	HAS01.1-065-NNN-CN	5	5
14	R911306008	Basic Kit	HAS01.1-105-NNN-CN	5	5
12	R911306106	Shield Kit	HAS02.1-002-NNN-NN	5	5
14	***new*** R911321502	X41 connection adapter	HAS05.1-007-NNL-NN	10	10
14	***new*** R911319770	X41 connection adapter	HAS05.1-007-NNR-NN	10	10
		Cables			
15	***new*** R985003832	Motor Power	RKL0013/005.0 (5m length)	3	10
15	***new*** R911324290	Motor Power	RKL0013/000.0 (configurable length)	3	12
15	***new*** R985003490	Motor Power	RKL0014/005.0 (5m length)	5	5
15	***new*** R911324291	Motor Power	RKL0014/000.0 (configurable length)	5	12
15	R911331348	Motor Power	RKL0019/005.0 (5m length)	5	5
15	R911331349	Motor Power	RKL0019/010.0 (10m length)	5	5
15	***new*** R911325407	Motor Power	RKL0019/000.0 (configurable length)	5	12
15	R911310648	Motor Power	RKL4302/005.0 (5m length)	5	5
15	R911310649	Motor Power	RKL4302/010.0 (10m length)	5	5
15	***new*** R911305799	Motor Power	RKL4302/000.0 (configurable length)	5	12
15	R911310652	Motor Power	RKL4303/005.0 (5m length)	5	5
15	R911310653	Motor Power	RKL4303/010.0 (10m length)	5	5
15	***new*** R911305798	Motor Power	RKL4303/000.0 (configurable length)	5	12
15	***new*** R911312870	Motor Power	RKL4309/005.0 (5m length)	5	5
15	***new*** R911305180	Motor Power	RKL4309/000.0 (configurable length)	5	12
15	***new*** R911337991	Motor Power	RKL4324/005.0 (5m length)	5	5
15	***new*** R911310116	Motor Power	RKL4324/000.0 (configurable length)	5	12
15	R911310645	Motor Feedback	RKG4200/005.0 (5m length)	5	5

GoTo Focused Delivery Program: Part Numbers

Page Number	Part Number	Product Type	Material Description	Max. Qty.	Shipment (Days)
		Cables continued			
15	R911310646	Motor Feedback	RKG4200/010.0 (10m length)	5	5
15	***new*** R911299435	Motor Feedback	RKG4200/000.0 (configurable length)	5	12
15	***new*** R985003831	Motor Feedback	RKG0033/005.0 (5m length)	3	10
15	***new*** R911324269	Motor Feedback	RKG0033/000.0 (configurable length)	3	12
15	***new*** R911326091	Motor Feedback	RKG0034/000.0 (configurable length)	3	12
16	R911308248	Interface (optical)	RKO0100/00.25 (0.25m length)	5	5
16	R911308242	Interface (optical)	RKO0101/005.0 (5m length)	5	5
16	R911308243	Interface (optical)	RKO0101/010.0 (10m length)	5	5
16	R911321548	Interface (Ethernet)	RKB0011/005.0 (5m length)	5	5
16	R911317797	Interface (Ethernet)	RKB0013/00.25 (0.25m length)	5	5
16	R911296708	Interface (RS232-Serial)	IKB0041/002.0 (2m length)	5	5
16	***new*** R911324240	Battery box	SUP-E01-MSM-BATTERYBOX	3	10
		Motion Control PAC			
		IndraControl L			
17	R911171363	IndraControl L25	CML25.1-3N-400-NN-NNC1-NW	1	5
18	R911331629	IndraMotion MLC Firmware	FWA-CML25*-MLC-11VRS-D0	1	5
17	R911170255	IndraControl L40	CML40.2-SP-330-NA-NNNN-NW	1	5
	R911299856	Connector Set	R-IB IL CML S01-PLSET	10	5
18	R911320567	IndraMotion MLC Firmware	FWA-CML402-MLC-04VRS-D0	1	5
17	R911170828	IndraControl L45	CML45.1-3P-500-NA-NNNN-NW	1	5
	R911299856	Connector Set	R-IB IL CML S01-PLSET	10	5
18	R911331630	IndraMotion MLC Firmware	FWA-CML45*-MLC-11VRS-D0	1	5
		I/O			
		Inline (IP20)			
19	R911170789	Power Module	R-IB IL 24 PWR IN-PAC	5	3
19	R911170790	Power Module	R-IB IL 24 SEG/F-PAC	5	3
19	R911170710	Power Module	R-IB IL 24 SEG/F-D-PAC	5	3
20	R911170875	Bus Coupler	R-IL S3 BK DI8 DO4-PAC	5	3
20	***new*** R911172194	Bus Coupler	R-IL PB BK DI8 DO4/CN-PAC	5	3
20	R911170971	Bus Coupler	R-IL PB BK DP/V1-PAC	5	3
21	R911170826	Block I/O	R-ILB S3 24 DI16 DIO16	5	3
22	R911170874	Block I/O analog	R-ILB S3 AI4 A02	5	3
23	R911170750	Digital Input Module	R-IB IL 24 DI 4-PAC	5	3

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Page Number	Part Number	Product Type	Material Description	Max. Qty.	Shipment (Days)
		Inline (IP20) continued			
23	R911170751	Digital Input Module	R-IB IL 24 DI 8-PAC	5	3
23	R911170752	Digital Input Module	R-IB IL 24 DI 16-PAC	5	3
23	R911170753	Digital Input Module	R-IB IL 24 DI 32/HD-PAC	5	3
24	R911170754	Digital Output Module	R-IB IL 24 DO 2-2A-PAC	5	3
24	R911170755	Digital Output Module	R-IB IL 24 DO 4-PAC	5	3
24	R911170756	Digital Output Module	R-IB IL 24 DO 8-PAC	5	3
24	R911170759	Digital Output Module	R-IB IL 24 DO 8-2A-PAC	5	3
24	R911170757	Digital Output Module	R-IB IL 24 DO 16-PAC	5	3
24	R911170768	Digital Output Module	R-IB IL 24 DO 32/HD-PAC	5	3
25	R911170769	Digital Output Module	R-IB IL 24/230 DOR 1/W-PAC	5	3
25	R911170758	Digital Output Module	R-IB IL 24/230 DOR4/W-PAC	5	3
26	R911170784	Analog Input Module	R-IB IL AI 2/SF-PAC	5	3
26	R911308494	Analog Input Module	R-IB IL AI 8/IS-PAC	5	3
26	R911308493	Analog Input Module	R-IB IL AI 8/SF-PAC	5	3
27	R911170786	Analog Output Module	R-IB IL AO 2/U/BP-PAC	5	3
27	R911170787	Analog Output Module	R-IB IL AO 1/SF-PAC	5	3
27	R911170436	Analog Output Module	R-IB IL AO 2/SF-PAC	5	3
28	R911170785	Temperature Module	R-IB IL TEMP 2 RTD-PAC	5	3
28	R911170431	Temperature Module	R-IB IL TEMP 2 UTH-PAC	5	3
29	R911170440	Communication Module	R-IB IL RS232-PRO-PAC	5	3
30	R911170788	Counter Module	R-IB IL CNT-PAC	5	3
30	R911308491	Counter Module	R-IB IL INC-IN-PAC	5	3
30	R911308594	Counter Module	R-IB IL SSI-PAC	5	3
		IndraControl S67 (IP67)			
31	R911171796	Power Divider	S67-PWR-IN-M12	5	3
32	R911171782	Bus Coupler	S67-PB-BK-DI8-M8	5	3
34	R911171787	Digital Input Module	S67-DI8-M8	5	3
34	R911171788	Digital Input Module	S67-DI8-M12	5	3
36	R911171789	Digital Output Module	S67-DO8-M8	5	3
36	R911171790	Digital Output Module	S67-DO8-M12	5	3
36	R911171791	Digital Output Module	S67-DO8-M8-2A	5	3
36	R911171792	Digital Output Module	S67-DO8-M12-2A	5	3
38	R911171793	Analog Input Module	S67-AI4-U/I-M12	5	3
40	R911171795	Analog Output Module	S67-AO4-U/I-M12	5	3
42	R911171794	Temperature Module	S67-AI4-RTD-M12	5	3
44	R911308301	Profibus cable	IKB0048/005.0 (5m length)	3	5
44	R911308300	Profibus cable	IKB0049/005.0 (5m length)	3	5
44	R911308250	Profibus cable	IKB0050/000.3 (0.3m length)	3	5

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Page Number	Part Number	Product Type	Material Description	Max. Qty.	Shipment (Days)
		IndraControl S67 (IP67) continued			
44	R911296632	Terminating Resistor	INS0762/CNN	3	5
44	R911172100	Voltage Cable	RKB0047/005.0 (5m length)	3	5
44	R911172102	Voltage Cable	RKB0046/000.2 (0.2m length)	3	5
44	R911171990	Systembus Cable	RKB0041/000.2 (0.2m length)	3	5
44	***new*** R911171998	Systembus termination plug	RBS0020/CNN	5	3
		HMI			
		Standard HMI			
45	R911311488	IndraControl VCP02	VCP02.2DRN-003-NN-NN-PW	1	5
45	R911311493	IndraControl VCP05	VCP05.2DSN-003-NN-NN-PW	1	5
45	R911311497	IndraControl VCP08	VCP08.2DTN-003-NN-NN-PW	1	5
45	R911311509	IndraControl VCP11	VCP11.2DWN-003-NN-NN-PW	1	5
45	R911311505	IndraControl VCP25	VCP25.2DVN-003-NN-NN-PW	1	5
45	R911171110	IndraControl VCP35	VCP35.2ECN-003-NN-NN-PW	1	5
		WinCE-based HMI			
46	R911171834	IndraControl VEP30	VEP30.4EFN-512NN-A2D-NNN-NN-FW	1	5
46	R911171835	IndraControl VEP40	VEP40.4DBN-512NN-A2D-NNN-NN-FW	1	5
46	R911171924	IndraControl VEP50	VEP50.4DEN-512NN-A2D-NNN-NN-FW	1	5
46	R911328967	Firmware	FWA-VEP*04-CWN-10VRS-D0-A*	1	5
46	R911323620	WinStudio Runtime License	SWS-WINSTU-RUN-07VRS-D0-WCE1K5	1	1
		Software			
47	R911332831	IndraWorks MLD11	SWA-IWORKS-MLD-11VRS-D0-DVD**-COPY	1	1
47	R911320574	IndraWorks MLC04	SWA-IWORKS-ML*-04VRS-D0-CD650	1	1
47	R911331633	IndraWorks MLC11	SWA-IWORKS-ML*-11VRS-D0-DVD**	1	1
47	R911331635	License MLC11. single	SWL-IWORKS-ML*-11VRS-D0-ENG	1	1
47	R911331661	IndraWorks CamBuilder11	SWS-IWORKS-CAM-11VRS-D0	1	1
48	R911311752	VIComposer 02	SWA-VIC*PC-INB-02VRS-D0-CD650	1	1

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74460 EN1012
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