high-accuracy
measurement
instruments

FICHA TÉCNICA DE PRODUTO

PRODUCT DATASHEET

HMI – Automação e Instrumentação, Lda.

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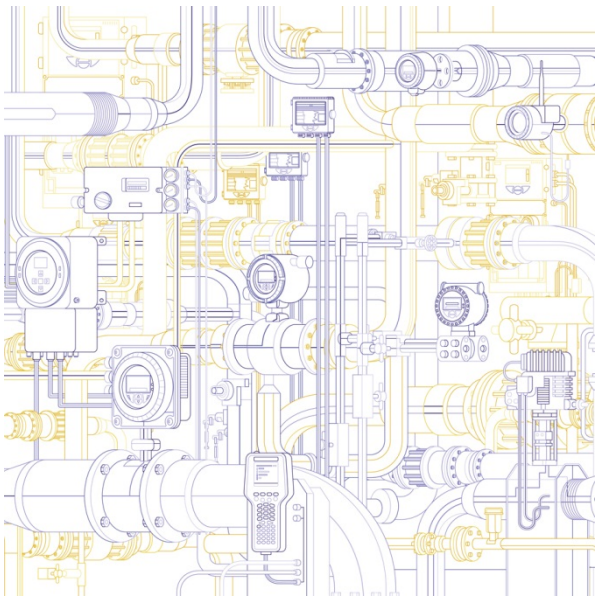
Data Sheet 10/63-0.47-EN Rev. D

Devices overview
PROFIBUS DP

Measurement made easy



PROFIBUS DP device family

- Flowmeter
- Flow Calculators
- Analyzer
- Process Controller
- Electrical Actuator
- DC Drives
- Frequency Converter
- MNS Motor-Management INSUM®
- Motor Management, Soft Starter
- Wireless Automation
- Redundancy Link Module
- Operator Panels
- Remote I/O and I/O System
- Distributed Automation
- Network components, Accessories

Power and productivity
for a better world™

	Flowmeter		
			
	WaterMaster Family (FEW/FER/FEV1xx, FEW3xx, FET1xx)	**FEA1xx AquaProbe**	**FMT500-IG Sensyflow**
Data sheet	DS/WM-EN	DS/FEA100-EN	10/14-6.41-EN
Internet	www.abb.com/flow	www.abb.com/flow	www.abb.com/flow
Application	Electromagnetic Flowmeter for use with water and waste water. Available in integral or remote type. Accuracy: 0.2 % of rate, 0.4 % (standard) Meter size: DN 10 … DN 2400	AquaProbe is an economic alternative to full bore flow meters. It comprises an electromagnetic sensing head mounted on the end of a support rod. Accuracy: 2 % of rate Meter size: DN 200 … DN 8000	Thermal mass flowmeter for air and gases, determination of mass flow / standard volume flow and gas temperature. Turn down ratio: 1:150 Measuring medium temperature: -25 ... 300 °C Accuracy: 0.9 % of reading + 0.05 % fs Meter size: DN 25 ... DN 3000 (1 ... 120")
Ambient temperature	-20 ... 60 °C	-20 ... 60 °C	-25 ... 50 °C
Type of protection	IP 68 (NEMA 6)	IP 67 (NEMA 4)	IP 67
Explosion protection	FM Class 1 Div. 2/usFMc Class 1 Div. 2 / ATEX / IECEx Zone 2, 21&22 (FEW/FEVxx5)	–	II 2(1) G Ex de [ia] ib II C T4; II 2 D Ex
Approvals	CE	CE	CE, ATEX, FM, CSA
Overvoltage protector DP	–	–	Yes (category III)
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 1.5 Mbit/s	≤ 1.5 Mbit/s	≤ 1.5 Mbit/s
Ident. No.	3431 HEX	3431 HEX	05CA HEX
PI Certificate No.	Z01569	Z01569	-
Bus address	1 ... 125	1 ... 125	1 ... 125 (default 126)
local adjustment	Keypad and display	Keypad and display	Keypad
central adjustment	Software (e. g.: Asset Vision)	Software (e. g.: Asset Vision)	Software (e. g.: Asset Vision)
PA Profile	V3.01	V3.01	V3.01
Transducer Block (TB)	Flow	Flow	Flow
Function Block (FB) *(Only for profile compliant devices)*	**4 AI:** flow, internal forward and reverse totalizers, diagnostic signal, **2 TOT:** forward and reverse totalizers, **1 AO:** display value.	**4 AI:** flow, internal forward and reverse totalizers, diagnostic signal, **2 TOT:** forward and reverse totalizers, **1 AO:** display value.	**2 AI:** flow, gas temperature **1 TOT, SET-, SET/MOD-TOT:** flow totalizer **1 Charact. Input:** characteristic curve, PRESET-TOT value
FB Data length cyclical			
read	5 / 10 / 15 / 20 / 25 / 30 Byte	5 / 10 / 15 / 20 / 25 / 30 Byte	5 ... 15 Byte
write	0 ... 5 Byte	0 ... 5 Byte	0 ... 9 Byte
Device configuration			
central adjustment	DTM or EDD	DTM or EDD	DTM
local adjustment	Keypad and display	Keypad and display	Keypad and display
Asset Monitor	Yes (for ABB Tools)	Yes (for ABB Tools)	-
Active termination	(On request)	(On request)	Yes (Jumper)
External supply	Yes	Yes	Yes

	Flow Calculators		Gateway
			
	FCU200 SensyCal	**FCU400 SensyCal**	**HD67053 M** (Wachdorff)
Data sheet	10/18-5.22 EN	10/18-5.22 EN	–
Internet	www.abb.com/flow	www.abb.com/flow	www.wachendorff.de/wp/
Application	Universal Measuring Computer designed for industrial process signal monitoring and logging. Model FCU200-W - Caloric energy computer for liquid Model FCU200-T - 2 channel current-pulse converter (Counter)	Model FCU400-S - Computer for superheated and saturated steam (flow, heat) Model FCU400-G - Computer for gas flow, gas translator Model FCU400-P - Process Signal combination (summation, dT-measurement)	PROFIBUS DP Gateway for Flow Calculators. Transmission of measured variables without delay, 1 ... 15 Recorders / Power Transducers connectable.
Ambient temperature	-5 ... 55 °C	-5 ... 55 °C	-40 … 70 °C
Type of protection	IP 65	IP 65	IP 20
Explosion protection	–	–	–
Approvals	CE, PTB (FCU200-W), CSA	CE, CSA	CE
Overvoltage protection DP	Yes	Yes	–
Physics	**via gateway HD67053 M**	**via gateway HD67053 M**	EIA 485 (RS 485)
Protocol			PROFIBUS DP
Baud rate			≤ 12 Mbit/s
Ident. No.			AFF3 HEX
PI Certificate No.			–
Bus address local adjustment			1 ... 125 Software
central adjustment			–
PA Profile			–
Transducer Block (TB)			–
Function Block (FB) *(Only for profile compliant devices)*	**Read:** physical parameter	**Read:** physical parameter	–
FB Data length cyclical read write	**via gateway HD67053 M**	**via gateway HD67053 M**	244 Byte 244 Byte
Device configuration central adjustment	–	–	–
local adjustment	Software ParaTool via Optohead or M-Bus Repeater	Software ParaTool via Optohead or M-Bus Repeater	Software
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

	Analyzer		
			
	AO2000 Advance Optima	**EL3000 EasyLine**	**EL3060 EasyLine**
Data sheet	10/24-1.20-EN	10/24-4.10-EN	10/24-4.12-EN
Internet	www.abb.com/analytical	www.abb.com/analytical	www.abb.com/analytical
Application	Modular gas analyzers for process analytics and emission monitoring. Offers a range of different analytical principles: from NDIR, IR UV, thermal conductivity, O_2 (paramagnetic), Trace Oxygen sensor, flame ionization measurement of Hydro-carbons (FID) to in-situ laser measurements.	Gas analyzers for process analytics and emission monitoring. Different analytical principles: IR, UV, thermal conductivity, O_2 (paramagnetic and electrochemical), trace oxygen sensor.	The Category II 2G gas analyzers of the EL3060 series are suitable for measuring flammable and non-flammable gases under atmospheric conditions which may occasionally be potentially explosive (Zone 1). Different analytical principles: from IR, thermal conductivity, O2 (paramagnetic).
Ambient temperature	5 ... 50 °C (45 °C Uras)	5 ... 45 °C	5 ... 50 °C (45 °C Uras)
Type of protection	IP 20 / IP 54 / IP 65	IP 20 / IP 65	IP 54 / IP 65
Explosion protection	II 2G Ex px e d [ib] IIC T4 II 3G Ex nA py II T4	II 3G Ex nAC II T4 X	II 2G Ex de IIC T4 II 2G Ex d IIC T4
Approvals	CE, TÜV, CSA Class I Div.2, GOST, MCERTS, EPA, ATEX	CE, TÜV, CSA, MCERTS, ATEX	CE, ATEX, GOST, TIIS, NEPSI
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485), (MBP optional)	EIA 485 (RS 485), (MBP optional)	EIA 485 (RS 485), (MBP optional)
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 6 Mbit/s	≤ 6 Mbit/s	≤ 6 Mbit/s
Ident. No.	07A4 HEX, 3401 HEX	3400 HEX	3400 HEX
PI Certificate No.	Z01053, Z01432	Z01311	Z01311
Bus address local adjustment central adjustment	1 ... 125 (default 126) Keypad and display Software (e. g.: Remote HMI)	1 ... 125 (default 126) – Software (EasyLine Config. Tool)	1 ... 125 (default 126) – Software (EasyLine Config. Tool)
PA Profile	V3.01	V3.01	V3.01
Transducer Block (TB)	Analyzer	Analyzer	Analyzer
Function Block (FB) *(Only for profile compliant devices)*	**AI, AO, DI, DO,** max 60 physical values, analog / digital I/O's, Status signals: error, maintenance request, maintenance mode	**AI, DI, DO,** max 55 physical values, analog inputs and digital I/O's, Status signals: error, maintenance request, maintenance mode	**AI, DI, DO**, max 55 physical values, analog inputs and digital I/O's, Status signals: error, maintenance request, maintenance mode
FB Data length cyclical read write	 up to 240 Byte up to 240 Byte	 up to 240 Byte up to 240 Byte	 up to 240 Byte up to 240 Byte
Device configuration central adjustment local adjustment	 Full remote control with Ethernet TCP/IP and HMI-Software Keypad and display	 EasyLine Configuration Tool (Ethernet TCP/IP) Keypad and display	 EasyLine Configuration Tool (Ethernet TCP/IP) Keypad and display
Asset Monitor	–	–	
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

	Analyzer		
			
	AAM631 Aztec 600 ISE	**AFM631 Aztec 600 ISE**	**AW631 Aztec 600**
Data sheet	DS/AAM631-EN	DS/AFM631-EN	DS/AZT6AL-EN
Internet	www.abb.com/measurement	www.abb.com/measurement	www.abb.com/measurement
Application	The Aztec 600 Ammonia analyzer has been designed specifically for the measurement of ammonia in potable water applications. It offers reliable, and accurate, on-line analysis of ammonia from 0.05 up to 1,000 ppm.	The Aztec 600 Fluoride analyzer has been designed specifically for the measurement of fluoride in potable water applications. It offers reliable, and accurate, on-line analysis of fluoride from 0.1 up to 100 ppm.	The Aztec 600 Aluminium analyzer has been designed specifically for the measurement of aluminium in potable water applications. It offers reliable, and accurate, on-line analysis of aluminium up to 1.5 ppm.
Ambient temperature	5 ... 40 °C	5 ... 40 °C	5 … 45 ºC
Type of protection	IP 31	IP 31	IP 31
Explosion protection	–	–	–
Approvals	CE, cULus, EMC & LV :EN61010-1 EMC: IEC61326	CE, cULus, EMC & LV :EN61010-1 EMC: IEC61326	CE, UL, CSA
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	0AD4 HEX	0AD4 HEX	0AD4 HEX
PI Certificate No.	–	–	–
Bus address local adjustment central adjustment	1 … 125 (default 6) Keypad and display –	1 … 125 (default 6) Keypad and display –	1 … 125 (default 6) Keypad and display –
PA Profile	–	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	**Streams 1 to 3:** Concentration values, alarm status, current outputs	**Streams 1 to 3:** Concentration values, alarm status, current outputs	**Streams 1 to 3:** Concentration values, alarm status, current outputs
FB Data length cyclical read write	 up to 30 bytes –	 up to 30 bytes –	 up to 30 bytes –
Device configuration central adjustment local adjustment	 DTM (AW630) Keypad and display	 DTM (AW630) Keypad and display	 DTM Keypad and display
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

	Analyzer		
			
	AW632 Aztec 600	**AW633 Aztec 600**	**AW634 Aztec 600**
Data sheet	DS/AZT6AM-EN	DS/AZT6IR-EN	DS-AZT6ML-EN
Internet	www.abb.com/measurement	www.abb.com/measurement	www.abb.com/measurement
Application	The Aztec 600 Ammonia analyzer has been designed specifically for the measurement of ammonia in ground waters, surface waters, potable waters and municipal wastewater effluents. It offers reliable, and accurate, on-line analysis of ammonia up to 3 ppm	The Aztec 600 Iron analyzer has been designed specifically for the measurement of iron in ground waters, surface waters and potable waters. It offers reliable, and accurate, on-line analysis of iron up to 5 ppm	The Aztec 600 Manganese Low Range Analyzer is designed specifically for the measurement of low concentrations of manganese found in final waters (typically <0.05 ppm Mn) and offers greater sensitivity over this range.
Ambient temperature	5 … 45 °C	5 … 45 °C	5 … 35 °C
Type of protection	IP 31	IP 31	IP 31
Explosion protection	–	–	–
Approvals	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	0AD4 HEX	0AD4 HEX	0AD4 HEX
PI Certificate No.	–	–	–
Bus address local adjustment central adjustment	1 … 125 (default 6) Keypad and display –	1 … 125 (default 6) Keypad and display –	1 … 125 (default 6) Keypad and display –
PA Profile	–	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	**Streams 1 to 3:** Concentration values, alarm status, current outputs	**Streams 1 to 3:** Concentration values, alarm status, current outputs	**Streams 1 to 3:** Concentration values, alarm status, current outputs
FB Data length cyclical read write	 up to 30 bytes –	 up to 30 bytes –	 up to 30 bytes –
Device configuration central adjustment local adjustment	 DTM Keypad and display	 DTM Keypad and display	 DTM Keypad and display
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

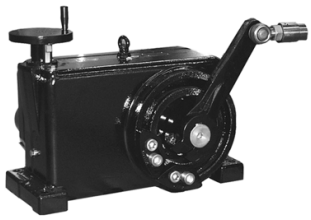
	Analyzer		
			
	AW635 Aztec 600	**AW636 Aztec 600**	**AW637 Aztec 600**
Data sheet	DS/AZT6MN-EN	DS/AZT6PO-EN	DS/AZT6C-EN
Internet	www.abb.com/measurement	www.abb.com/measurement	www.abb.com/measurement
Application	The Aztec 600 Manganese analyzer has been designed specifically for the measurement of manganese in ground waters, surface waters and potable waters. It offers reliable, and accurate, on-line analysis of manganese up to 10 ppm.	The Aztec 600 Phosphate analyzer has been designed specifically for the measurement of phosphate in both potable water and municipal wastewater effluents. It offers reliable and accurate on-line analysis of phosphate up to 50 ppm PO4.	The Aztec 600 Color analyzer has been designed specifically for the measurement of color through the drinking water treatment process for coagulation optimization. It offers reliable and accurate on-line analysis of the color of surface waters and treated waters up to 500 Hazen units.
Ambient temperature	5 … 45 ºC	5 … 45 ºC	5 … 40 ºC
Type of protection	IP 31	IP 31	IP 31
Explosion protection	–	–	–
Approvals	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	0AD4 HEX	0AD4 HEX	0AD4 HEX
PI Certificate No.	–	–	–
Bus address local adjustment central adjustment	1 ... 125 (default 6) Keypad and display –	1 ... 125 (default 6) Keypad and display –	1 ... 125 (default 6) Keypad and display –
PA Profile	–	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	**Streams 1 to 3:** Concentration values, alarm status, current outputs	**Streams 1 to 3:** Concentration values, alarm status, current outputs	**Streams 1 to 3:** Concentration values, alarm status, current outputs
FB Data length cyclical read write	 up to 30 bytes –	 up to 30 bytes –	 up to 30 bytes –
Device configuration central adjustment local adjustment	 DTM Keypad and display	 DTM Keypad and display	 DTM Keypad and display
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

	Analyzer		
			
	AWT540 Navigator 500	**AW641 Navigator 600**	**AW642 Navigator 600**
Data sheet	DS/ASO550–EN	SS/NAV6S	SS/NAV6P
Internet	www.abb.com/measurement	www.abb.com/measurement	www.abb.com/measurement
Application	Monitoring of Sodium, Dissolved Oxygen and Hydrazine, for high purity water treatment applications and power cycle chemistry monitoring.	Monitoring the Silica level in boiler and demineralized water, primarily in Power applications	Monitoring the Phosphate level in boiler and demineralized water, primarily in Power applications
Ambient temperature	0 … 55 °C	5 … 45 °C	5 … 45 °C
Type of protection	IP 66 / NEMA 4X	IP 31	IP 31
Explosion protection	–	–	–
Approvals	CE, UL, CSA EMC: EN61326	CE, UL, CSA	CE, UL, CSA
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	in preparation	0AD4 HEX	0AD4 HEX
PI Certificate No.	–	–	–
Bus address local adjustment central adjustment	1 … 125 (default 126) Keypad and display –	1 … 125 (default 6) Keypad and display –	1 … 125 (default 6) Keypad and display –
PA Profile	–	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	**Streams 1 to 4:** Concentration values, alarm status, current outputs	**Streams 1 to 6:** Concentration values, alarm status, current outputs	**Streams 1 to 6:** Concentration values, alarm status, current outputs
FB Data length cyclical read write	 up to 30 bytes –	 up to 30 bytes –	 up to 30 bytes –
Device configuration central adjustment local adjustment	 in preparation Keypad and display	 DTM Keypad and display	 DTM Keypad and display
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

	Analyzer (AX400 Family)		
			
	AX41x, AX43x, AX45x	**AX46x**	**AX48x**
Data sheet	SS/AX4CO SS/AX4CO4	SS/AX4PH	SS/AX4DO
Internet	www.abb.com/measurement	www.abb.com/measurement	www.abb.com/measurement
Application	Conductivity as primary variable. Single and dual input analyzer for conductivity, pH/Redox (ORP) and DO2 with integral PID controller. Use in water and waste water treatment - power - chemical - pharmaceutical - pulp and paper Accuracy: 0.01 % of span	pH/Redox as primary variable. Single and dual input analyzer for pH/Redox (ORP), Conductivity and DO2 with integral PID controller. Use in water and waste water treatment - power - chemical - pharmaceutical - pulp and paper Accuracy: 0.01 pH	Dissolved Oxygen as primary variable. Single and dual input analyzer for DO2, Conductivity and pH/Redox (ORP) with integral PID controller. Use in water and waste water treatment - food and beverage - pulp and paper Accuracy: 1 % saturation, 0.1 mgl-1 or ppm
Ambient temperature	-20 ... 65 °C	-20 ... 65 °C	-20 ... 65 °C
Type of protection	IP 65	IP 65	IP 65
Explosion protection	ATEX Type N FM/CSA C1-D1 (in preparation)	ATEX Type N FM/CSA C1-D1 (in preparation)	ATEX Type N FM/CSA C1-D1 (in preparation)
Approvals	CE	CE	CE
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DP	PROFIBUS DP	PROFIBUS DP
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	07EB HEX	07EB HEX	07EB HEX
PI Certificate No.	–	–	–
Bus address local adjustment central adjustment	1 ... 125 (default 126) Buttons –	1 ... 125 (default 126) Buttons –	1 ... 125 (default 126) Buttons –
PA Profile	–	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	DP Device only: Process variable, Temperature, Calculated variable, Sensor status, Alarm status	DP Device only: Process variable, Temperature, Calculated variable, Sensor status, Alarm status	DP Device only: Process variable, Temperature, Calculated variable, Sensor status, Alarm status
FB Data length cyclical read write	10 … 24 Byte –	10 … 24 Byte –	10 … 24 Byte –
Device configuration central adjustment local adjustment	– Keypad and display	– Keypad and display	– Keypad and display
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

	Process Controller		
			
	CM10 ControlMaster	**CM15 ControlMaster**	**CM30 ControlMaster**
Data sheet	DS/CM10-EN	DS/CM15-EN	DS/CM30-EN
Internet	www.abb.com/measurement	www.abb.com/measurement	www.abb.com/measurement
Application	1/8th DIN universal process controller featuring a high quality TFT display providing detailed process information and exceptional ease of use. On / off, timer proportioning and analog PID controller make the CM10 suitable for controlling many process variables including temperature, pressure and flow.	1/8th DIN universal process indicator featuring a high quality TFT display providing detailed process information and exceptional ease of use. Frequency input, totalisation, level indication functions and dual point indication make the CM15 suitable for indication of any process signal.	1/4th DIN universal process controller featuring a high quality TFT display providing detailed process information and exceptional ease of use. Power features including, cascade, feed forward, dual loop, dead time and adaptive control is suitable for virtually any application. Additional features including math & logic and historical trending provide powerful problem solving capability.
Ambient temperature	0 ... 50 °C	0 ... 50 °C	0 ... 50 °C
Type of protection	IP 66 & NEMA 4X	IP 66 & NEMA 4X	IP 66 & NEMA 4X
Explosion protection	–	–	–
Approvals	CE & cULus	CE & cULus	CE & cULus
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	in progress	in progress	in progress
PI Certificate No.	in progress	in progress	in progress
Bus address local adjustment central adjustment	1 ... 125 (default 126) Keypad and display Software (e. g.: Asset Vision)	1 ... 125 (default 126) Keypad and display Software (e. g.: Asset Vision)	1 ... 125 (default 126) Keypad and display Software (e. g.: Asset Vision)
PA Profile	3.02	3.02	3.02
Transducer Block (TB)	Control	Control	Control
Function Block (FB) *(Only for profile compliant devices)*	in progress	in progress	in progress
FB Data length cyclical read write	 in progress in progress	 in progress in progress	 in progress in progress
Device configuration central adjustment local adjustment	 DTM Keypad and display	 DTM Keypad and display	 DTM Keypad and display
Asset Monitor	in progress	in progress	in progress
Active termination	in progress	in progress	in progress
External supply	Yes	Yes	Yes

	Process Controller		
			
	CM50 ControlMaster		
Data sheet	DS/CM50-EN		
Internet	www.abb.com/measurement		
Application	3 x 6 format universal process controller featuring a high quality TFT display providing detailed process information and exceptional ease of use. Power features including, cascade, feed forward, dual loop, dead time and adaptive control is suitable for virtually any application. Additional features including math & logic and historical trending provide powerful problem solving capability.		
Ambient temperature	0 ... 50 °C		
Type of protection	IP 66 & NEMA 4X		
Explosion protection	–		
Approvals	CE & cULus		
Overvoltage protection DP	–		
Physics	EIA 485 (RS 485)		
Protocol	PROFIBUS DPV1		
Baud rate	≤ 12 Mbit/s		
Ident. No.	in progress		
PI Certificate No.	in progress		
Bus address local adjustment central adjustment	1 ... 125 (default 126) Keypad and display Software (e. g.: Asset Vision)		
PA Profile	3.02		
Transducer Block (TB)	Control		
Function Block (FB) *(Only for profile compliant devices)*	in progress		
FB Data length cyclical read write	 in progress in progress		
Device configuration central adjustment local adjustment	 DTM Keypad and display		
Asset Monitor	in progress		
Active termination	in progress		
External supply	Yes		

	Electrical Actuators		
			
	Contrac (PME.., RHD.., RHDE..)	**Contrac** (LME.., RSD.., RSDE..)	
Data sheet	10/68-1.xx-EN, 10/68-8.xx-EN	10/68-2.xx-EN, 10/68-8.xx-EN	
Internet	www.abb.com/measurement	www.abb.com/measurement	
Application	Intelligent electrical continuous Actuators for modulating control. Part turn actuators: 50 ... 16000 Nm Compact actuator for the operation of final control elements with preferably linear movement. Best in class Cost of Ownership ratio. Up to 10 years maintenance free. Precise control allows for significant process improvements.	Intelligent electrical continuous Actuators for modulating control. Linear actuators: 2 ... 100 kN Compact actuator for the operation of final control elements with preferably linear movement. Best in class Cost of Ownership ratio. Up to 10 years maintenance free. Precise control allows for significant process improvements.	
Ambient temperature	-30 ... 65 °C (85°C)	-30 ... 65 °C (85°C)	
Type of protection	IP 66, NEMA 4X	IP 66, NEMA 4X	
Explosion protection	RHDE..: II 2 G ck Ex d e [ib] ib IIB T4 Gb II 2 D ck Ex tb IIIC T130°C	RSDE..: II 2 G ck Ex d e [ib] ib IIB T4 Gb II 2 D ck Ex tb IIIC T130°C	
Approvals	CE, Gost R, ATEX (RHDE..), GOST RTN (RHDE…)	CE, Gost R, ATEX (RSDE..), GOST RTN (RSDE…)	
Overvoltage protection DP	–	–	
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	
Baud rate	≤ 1.5 Mbit/s	≤ 1.5 Mbit/s	
Ident. No.	9655 (DP) / 09EC (DPV1) HEX	9655 (DP) / 09EC (DPV1) HEX	
PI Certificate No.	–	–	
Bus address local adjustment central adjustment	2 ... 125 (default 126) – Software (e. g.: Asset Vision)	2 ... 125 (default 126) – Software (e. g.: Asset Vision)	
PA Profile	V3.0, Class A	V3.0, Class A	
Transducer Block (TB)	Electrical actuator	Electrical actuator	
Function Block (FB) *(Only for profile compliant devices)*	**1 AI:** Setpoint with status, position with status, digital position, standard and extended bit coded device information, signal ready for operation	**1 AI:** Setpoint with status, position with status, digital position, standard and extended bit coded device information, signal ready for operation	
FB Data length cyclical read write	 0 ... 15 Byte 5 / 10 Byte	 0 ... 15 Byte 5 / 10 Byte	
Device configuration central adjustment local adjustment	 DTM –	 DTM –	
Asset Monitor	–	–	
Active termination	Yes (Switch)	Yes (Switch)	
External supply	Yes	Yes	

	DC Drives		
			
	DCS550	**DCS800**	
Data sheet	3ADW000395 EN	3ADW000191 EN	
Internet	www.abb.com/dc	www.abb.com/dc	
Application	DC DRIVE: Optimal for machine-builders or replacement; compact, fast commissioning, easy installation via configuration macros, regener-ative or non-regenerative; Applications: extruder, mixer, wire drawing, etc. Power connection: 3-phase, 230 ... 500 V, 50 ... 60 Hz, 12 ... 520 kW, 4 ... 1000 A	The drive meet the requirements of all demanding drive applications like: testrig, mine hoist, rolling mill, as well as non motoric application like electrolysis, magnet, battery charger. Embebbed software functions offer the upgrades of all classic installations 12-puls, shared motion. Power connection: 3-phase, 220 ... 1200 V ± 10 %, 45 ... 65 Hz, 5.5 ... 20,000 kW	
Ambient temperature	0 ... 40 °C (55 °C)	0 ... 40 °C	
Type of protection	IP 00	IP 00, Cabinet IP 21 (IP31, IP42, IP54)	
Explosion protection	–	–	
Approvals	CE, cULus, C-tick	CE, CSA, cULus, C-tick	
Overvoltage protection DP	(for power connection only)	(for power connection only)	
Physics Protocol Baud rate Ident. No. PI Certificate No.	**via communication module RPBA-01**	**via communication module RPBA-01**	
Bus address local adjustment central adjustment	2 ... 125 (default 2) Panel, Software DriveWindow Light –	2 ... 125 (default 2) Panel, Software DriveWindow (Light) –	
PA Profile	V2.0	V2.0	
Transducer Block (TB)	Adjustable drives	Adjustable drives	
Function Block (FB) *(Only for profile compliant devices)*	Reference and actual value, speed, current, torque, power, fault signals, PPO1-PPO4 (PPO5) with parameter transfer	Reference and actual value, speed, current, torque, fault signals, PPO1-PPO5 with parameter transfer	
FB Data length cyclical read write	 4 ... 20 (28) Byte 4 ... 20 (28) Byte	 4 ... 28 Byte 4 ... 28 Byte	
Device configuration central adjustment local adjustment	 Software (e. g. PLC) Panel or Software DriveWindow Light via RS 232	 Software (e. g. PLC) Panel or Software DW via FOC or DWL via RS232	
Asset Monitor	–	–	
Active termination	(External only)	(External only)	
External supply	Yes	Yes	

	Frequency Converter		
			
	MotiFlex e100	**ACSM1**	**ACS355**
Data sheet	3AUA0000116019 EN	3AFE68675073 EN	3AFE68596106 EN
Internet	www.abb.com/drives	www.abb.com/motors&drives	www.abb.com/motors&drives
Application	Servo drive Application: High performance machinery drives Power connection: 3-phase, 180 ... 560 V (absolute range), 50 ... 60 Hz ± 5 % Motor connection: Asynchronous motors (standard induction) and permanent magnet servo, 0 ... 500 Hz	Frequency converter Application: High performance machinery drives Power connection: 3-phase, 380 ... 480 V +10 / -15 %, 50 ... 60 Hz ± 5 % Motor connection: Asynchronous motors (standard induction, servo) and synchronous motors (servo, high torque), 0 ... 500 Hz	Frequency converter Application: General machinery drives Power connection: 1-phase, 200 ... 240 V ± 10 %, 0.37 ... 2.2 kW; 3-phase, 200 ... 240 V ± 10 %, 0.37 ... 11 kW; 3-phase, 380 ... 480 V ± 10 %, 0.37 ... 22 kW; 48 ... 63 Hz Motor connection: 0 ... 500 Hz
Ambient temperature	0 ... 55 °C, derating above 45 °C	-10 ... 55 °C, derating above 40 °C	-10 ... 55 °C, derating above 40 °C
Type of protection	IP 20	IP 20	IP 20 / IP 66 / IP 67 / IP 69K
Explosion protection	–	–	–
Approvals	CE, UL, cUL, CSA, C-Tick	CE, UL, cUL, CSA, C-Tick, GOST R	CE, UL, cUL, C-Tick, GOST R
Overvoltage protection DP	–	(for power connection only)	(for power connection only)
Physics Protocol Baud rate Ident. No. PI Certificate No.	**via communication module HMS Anybus CompactCom (OPT-FB-002) + OPT-0030**	**via communication module FPBA-01**	**via communication module FPBA-01**
Bus address local adjustment central adjustment	0 ... 125 (default 125) Software MINT Workbench Vis SSA service	2 … 125 (default 3) Panel, Software DriveStudio –	2 … 125 (default 3) Panel, Software DriveWindow Light –
Drive Profile	Generic Drive Interface	Drive: V4.1, Application Class 1	Drive: V4.1, Application Class 1
Transducer Block (TB)	Adjustable drives	Adjustable drives	Adjustable drives
Function Block (FB) *(Only for profile compliant devices)*	Reference and actual value, position, speed, current, status W, control W, custom objects via MINT programming. DPV1 acyclical parameter channel	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO8 with parameter transfer, ST1, ST2. DPV1 acyclical parameter channel	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO6 with parameter transfer, ST1. DPV1 acyclical parameter channel
FB Data length cyclical read write	 0 ... 64 Byte 0 ... 64 Byte	 4 ... 28 Byte 4 ... 28 Byte	 4 ... 28 Byte 4 ... 28 Byte
Device configuration central adjustment local adjustment	 Software (e. g. PLC) Software MINT Workbench	 Software (e. g. PLC) Panel or Software DriveStudio via RS 232	 Software (e. g. PLC) Panel or Software DriveWindow Light via RS 232
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

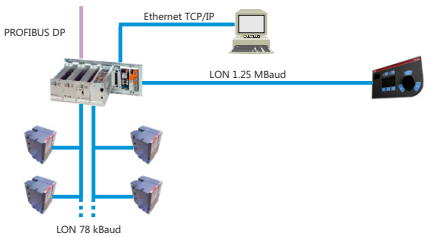
	Frequency Converter		
			
	ACS550, ACH550	**ACS800**	
Data sheet	3AFE64792857 EN	3AFE64572504 EN	
Internet	www.abb.com/motors&drives	www.abb.com/motors&drives	
Application	Frequency converter ACS550 for standard applications, ACH550 for HVAC applications. Power connection: 3-phase, 208 ... 240 / 380 ... 480 V, +10 % / -15 %, 48 ... 63 Hz, 0.75 ... 355 kW Motor connection: 0 ... 500 Hz	Frequency converter Application: Pumps and ventilators, centrifuges, mixers, winders, spinning machines, materials-handling technology, roller tables, packing machines. Power connection: 3-phase, 380 ... 500 V, 48 ... 63 Hz 1.1 ... 3000 kW Motor connection: 0 ... 300 Hz	
Ambient temperature	-15 ... 40 °C (50 °C)	-15 ... 40 °C (50 °C)	
Type of protection	IP 21 / IP 54	IP 21/IP 55 or IP 21/IP 22/IP 42/IP 45	
Explosion protection	–	–	
Approvals	CE, UL, cUL	CE, UL, CSA	
Overvoltage protection DP	(for power connection only)	(for power connection only)	
Physics	**via communication module RPBA-01**	**via communication module NPBA-12 or RPBA-01**	
Protocol			
Baud rate			
Ident. No.			
PI Certificate No.			
Bus address local adjustment central adjustment	2 … 125 (default 3) Panel, Software DriveWindow Light –	2 ... 125 (default 3) Panel, Software DriveWindow –	
Drive Profile	Drive: V2.0	Drive: V2.0	
Transducer Block (TB)	Adjustable drives	Adjustable drives	
Function Block (FB) *(Only for profile compliant devices)*	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO5 with parameter transfer	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO5 with parameter transfer	
FB Data length cyclical read write	 4 ... 28 Byte 4 ... 28 Byte	 4 ... 28 Byte 4 ... 28 Byte	
Device configuration central adjustment local adjustment	 Software (e. g. PLC) Panel or Software DriveWindow Light via RS 232	 Software (e. g. PLC) Panel or Software DriveWindow via WL	
Asset Monitor	–	–	
Active termination	(External only)	(External only)	
External supply	Yes	Yes	

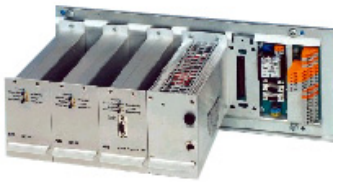
	Frequency Converter		
			
	ACQ810	**ACS850**	**ACS880**
Data sheet	3AUA0000055685 EN	3AUA0000041481 EN	3AUA0000098111 EN
Internet	www.abb.com/motors&drives	www.abb.com/motors&drives	www.abb.com/motors&drives
Application	Frequency converter Application: AC motor control in water and waste water application. Power connection: 3-phase, 208 … 240 V, 380 … 480 V; 50 … 60Hz Motor connection: Asynchronous induction motors, 0 … 500 Hz	Frequency converter Application: In process industries such as the pulp & paper, metals, mining, cement, power, chemical, and oil & gas. Power connection: 3-phase, 380 ... 500 V +10 / -15 %, 50 ... 60 Hz ± 5 % Motor connection: Asynchronous and permanent magnet motors, 0 ... 500 Hz	Frequency converter Application: In utility and process industries such as oil and gas, power plant, mining, metal, pulp and paper, sawmill and material handling. Power connection: 3-phase, 208 … 240 V, 380 … 500 V, 525 … 690 V; 50 … 60Hz Motor connection: Asynchronous and permanent magnet motors, 0 ... 500 Hz
Ambient temperature	-15 … 55 °C, derating above 40 °C	-10 … 55 °C, derating above 40 °C	-15 … 55 °C, derating above 40 °C
Type of protection	IP 20	IP 20	IP 21
Explosion protection	–	–	–
Approvals	CE, UL, CSA	CE, GOST R, UL, cUL, CSA, C-Tick	CE, GOST R, UL, cUL, CSA, C-Tick
Overvoltage protection DP	(for power connection only)	(for power connection only)	(for power connection only)
Physics Protocol Baud rate Ident. No. PI Certificate No.	**via communication module FPBA-01**	**via communication module FPBA-01**	**via communication module FPBA-01**
Bus address local adjustment central adjustment	2 … 125 (default 3) Panel, Software DriveStudio –	2 … 125 (default 3) Panel, Software DriveStudio –	2 … 125 (default 3) Panel, SW Drive Composer Entry/PRO –
Drive Profile	Drive: V4.1, Application Class 1	Drive: V4.1, Application Class 1	Drive: V4.1, Application Class 1
Transducer Block (TB)	Adjustable drives	Adjustable drives	Adjustable drives
Function Block (FB) *(Only for profile compliant devices)*	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO8 with parameter transfer, ST1. DPV1 acyclical parameter channel	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO8 with parameter transfer, ST1. DPV1 acyclical parameter channel	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO8 with parameter transfer, ST1. DPV1 acyclical parameter channel
FB Data length cyclical read write	 4 ... 28 Byte 4 ... 28 Byte	 4 ... 28 Byte 4 ... 28 Byte	 4 ... 28 Byte 4 ... 28 Byte
Device configuration central adjustment local adjustment	 Software (e. g. PLC) Panel or Software DriveStudio via RS 232	 Software (e. g. PLC) Panel or Software DriveStudio via RS 232	 Software (e. g. PLC) Panel or SW Drive Composer Entry/PRO via USB/Ethernet
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	Yes	Yes

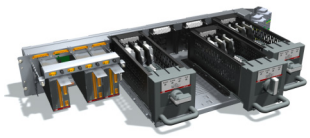
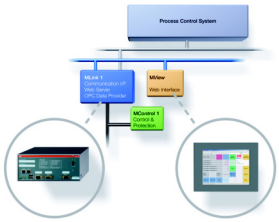
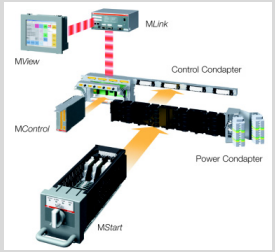
	Frequency Converter		
			
	ACS1000, ACS1000i	**ACS2000**	**ACS5000**
Data sheet	3BHT490400R0001	3BHT490640R0001	3BHT490501R0001
Internet	www.abb.com/motors&drives	www.abb.com/motors&drives	www.abb.com/motors&drives
Application	Medium Voltage AC Drive Typical application: Pumps, fans, conveyors, extruders, mixers, compressors, grinding mills, suitable for retrofit of existing motors Converter cooling: Air(A) or Water(W) Output voltage / frequency: 2.3 / 3.3 / 4.0 kV; i 3.3 / 4.16 kV Max. 66 Hz (optional 82.5 Hz) Power range: A: 315 kW - 1.8 MW; W: 1.8 - 5 MW	Medium Voltage AC Drive Typical application: Pumps, fans, conveyors, extruders, mixers, compressors, grinding mills, suitable for retrofit of existing motors Converter cooling: Air(A) Output voltage / frequency: 4.0 - 6.9 kV Max. output frequency 75 Hz Power range: A: 250 - 2,500 kW	Medium Voltage AC Drive Typical application: Compressors, extruders, pumps, fans, grinding mills, conveyors, blast furnace blowers, gas turbine starter Converter cooling: Air(A) or Water(W) Output voltage / frequency: 6.0 - 6.9 kV (optional 4.16 kV) Max. 75 Hz (optional 250 Hz) Power range: A: 2 - 7 MW, W: 5 - 22 MW
Ambient temperature	1... 40 °C (higher with derating)	1... 40 °C (higher with derating)	1... 40 °C (higher with derating)
Type of protection	A: IP 21, 22, 31, 32, 42 / W: IP 31, 54	IP 21 to IP 42	L: IP 21 / W: IP 32 (higher optional)
Explosion protection	–	–	–
Approvals	All common standards including CE, EN (IEC), UL, cUL, GOST	All common standards, 4kV: CE, EN, IEC, NEMA, IEEE 1566, UL 347A	All common standards including CE, EN, IEC
Overvoltage protection DP	(DC Overvoltage protection only)	(DC Overvoltage protection only)	(DC Overvoltage protection only)
Physics Protocol Baud rate Ident. No. PI Certificate No.	**via communication module NPBA-12**	**via communication module NPBA-12**	**via communication module NPBA-12**
Bus address local adjustment central adjustment	2 ... 125 (default 3) Panel, Software DriveWindow –	2 ... 125 (default 3) Panel, Software DriveWindow –	2 ... 125 (default 3) Panel, Software DriveWindow –
Drive Profile	Drive: V2.0	Drive: V2.0	Drive: V2.0
Transducer Block (TB)	Adjustable drives	Adjustable drives	Adjustable drives
Function Block (FB) *(Only for profile compliant devices)*	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO5 with parameter transfer	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO5 with parameter transfer	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO5 with parameter transfer
FB Data length cyclical read write	 4 ... 28 Byte 4 ... 28 Byte	 4 ... 28 Byte 4 ... 28 Byte	 4 ... 28 Byte 4 ... 28 Byte
Device configuration central adjustment local adjustment	 Software (e. g. PLC) Panel or Software DriveWindow via WL	 Software (e. g. PLC) Panel or Software DriveWindow via WL	 Software (e. g. PLC) Panel or Software DriveWindow via WL
Asset Monitor	–	–	–
Active termination	Yes (DIP switch)	Yes (DIP switch)	Yes (DIP switch)
External supply	Yes	Yes	Yes

	Frequency Converter		Communication module
			
	ACS6000		**HMS Anybus CompactCom & OPT-FB-002**
Data sheet	3BHT490399R0001		–
Internet	www.abb.com/motors&drives		www.abb.com/drives
Application	Medium Voltage AC Drive Typical application: Rolling mills, marine propulsion, mine hoists, pumps, fans, compressors, grinding mills, extruders, conveyors Converter cooling: Water(W) Output voltage / frequency: 3.0 - 3.3 kV (Optional: 2.3 kV) Max. 75 Hz (higher on request) Power range: 3 - 27 MW		PROFIBUS communication module
Ambient temperature	5 ... 45 °C (higher with derating)		-40 ... 70 °C
Type of protection	Standard: IP 32; Optional: up to IP 54		IP 20
Explosion protection	–		–
Approvals	All common standards including CE, EN, IEC, GOST, Marine optional		CE, UL, cUL, ROHS
Overvoltage protection DP	(DC Overvoltage protection only)		–
Physics	**via communication module NPBA-12**		EIA 485 (RS 485)
Protocol			PROFIBUS DPV1
Baud rate			≤ 12 Mbit/s
Ident. No.			1811 HEX
PI Certificate No.			Z01103
Bus address	2 ... 125 (default 3)		see MotiFlex e100
local adjustment	Panel, Software DriveWindow		
central adjustment	–		
Drive Profile	Drive: V2.0		
Transducer Block (TB)	Adjustable drives		
Function Block (FB) *(Only for profile compliant devices)*	Reference and actual value, speed, current, torque, frequency, fault signals, PPO1-PPO5 with parameter transfer		
FB Data length cyclical			
read	4 ... 28 Byte		
write	4 ... 28 Byte		
Device configuration			
central adjustment	Software (e. g. PLC)		
local adjustment	Panel or Software DriveWindow via WL		
Asset Monitor	–		–
Active termination	Yes (DIP switch)		(External only)
External supply	Yes		–

	Communication module		
			
	NPBA-12	**RPBA-01**	**FPBA-01**
Data sheet	3BFE64341588 EN	3AFE64504215 EN	3AFE68573271 EN
Internet	www.abb.com/motors&drives	www.abb.com/motors&drives	www.abb.com/motors&drives
Application	PROFIBUS communication module	PROFIBUS communication module	PROFIBUS communication module
Ambient temperature	5 ... 40 °C (55 °C)	-15 ... 40 °C (50 °C)	-15 … 60 °C
Type of protection	IP 20	IP 20	IP 20
Explosion protection	–	–	–
Approvals	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DP	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	6012 HEX	0812 HEX	0959 HEX
PI Certificate No.	–	–	–
Bus address local adjustment central adjustment	see ACS800, ACS1000(i), ACS2000, ACS5000 or ACS6000	see DCS550, DCS800, ACS550, ACH550 or ACS800	see ACSM1, ACS355, ACQ810, ACS850 or ACS880
PA Profile			
Transducer Block (TB)			
Function Block (FB) *(Only for profile compliant devices)*			
FB Data length cyclical read write			
Device configuration central adjustment local adjustment			
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes	–	–

	MNS Motor Management INSUM®		
			
	MCU1	**MCU2**	**MMI**
Data sheet	1TGC901007B0202	1TGC901007B0202	1TGC901007B0202
Internet	www.abb.com/mns	www.abb.com/mns	www.abb.com/mns
Application	Motor Control Unit 1: controls, monitors and protects single and three phase motors in accordance with set parameters. MCU1 provides control for standard drive types with two contactor control and current based motor protection and 12 pre-defined digital inputs for field contacts	Motor Control Unit 2: see MCU1. MCU2 additionally provides voltage based protection functions. MCU 2 provides control for drive types with three contactor control and 15 pre-defined and 2 general purpose digital inputs for field contacts.	Man-Machine-Interface for INSUM® 6-digit LCD-display: For a clear display of data from all 128 connected field devices. Encoder wheel and function keys: Simple and clear menu-driven operation.
Ambient temperature	-5 ... 55 °C	-5 ... 55 °C	-5 ... 70 °C
Type of protection	IP 20	IP 20	IP 30
Explosion protection	PTB 03 ATEX 3033	PTB 03 ATEX 3033	–
Approvals	CE, IEC 439-1, PTB	CE, IEC 439-1, PTB	CE, IEC 439-1
Overvoltage protection DP	–	–	–
Physics Protocol Baud rate Ident. No. PI Certificate No. Bus address local adjustment central adjustment PA Profile Transducer Block (TB)			**via INSUM® - Gateway**
Function Block (FB) *(Only for profile compliant devices)*	Measurement: current, temperature Operating Commands Messages: time meter, status, service, warnings, errors, ect.	Measurement: current, voltage, power, cos-phi, temperature Operating Commands Messages: time meter, status, service, warnings, errors, ect.	see MCU1 and MCU2
FB Data length cyclical read write	 – –	 – –	 – –
Device configuration central adjustment local adjustment	 – Via Software OS on Ethernet TCP/IP	 – Via Software OS on Ethernet TCP/IP	 – –
Asset Monitor	Yes (for ABB Tools)	Yes (for ABB Tools)	Yes (for ABB Tools)
Active termination	–	–	–
External supply	Yes	Yes	Yes

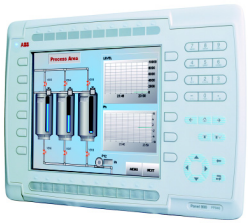
	MNS Motor Management INSUM®		
			
	Backplane, Double Router	**Gateway**	
Data sheet	1TGC901007B0202	1TGC901007B0202	
Internet	www.abb.com/mns	www.abb.com/mns	
Application	The INSUM Communication Unit (ICU) is the switchgear communication hub for both internal and external communication. Internally it allows four subnet connections via routers for 32 devices/ subnet. The ICU can provide three communication links for external communication. Besides this, the Local MMI and INSUM OS software are also directly connected to ICU.	Gateway serves for protocol conversion from LON (INSUM system) to Profibus (DCS). The Profibus Gateway can provide 24 binary bits of status information and current information to DCS.	
Ambient temperature	-5 ... 70 °C	-5 ... 70 °C	
Type of protection	IP 30	IP 30	
Explosion protection	–	–	
Approvals	CE, IEC 439-1	CE, IEC 439-1	
Overvoltage protection DP	–	Yes	
Physics	**via INSUM® - Gateway**	EIA 485 (RS 485)	
Protocol		PROFIBUS DP	
Baud rate		1.5 Mbit/s fix	
Ident. No.		067E HEX (Software Version 2.3)	
PI Certificate No.		–	
Bus address		1 ... 125 (default 126)	
local adjustment		MMI, Software OS	
central adjustment		–	
PA Profile	see MCU1 and MCU2	see MCU1 and MCU2	
Transducer Block (TB)			
Function Block (FB) *(Only for profile compliant devices)*			
FB Data length cyclical			
read	–	0 ... 244 Byte	
write	–	0 ... 49 Byte	
Device configuration			
central adjustment	–	–	
local adjustment	–	–	
Asset Monitor	–	–	
Active termination	–	(External only)	
External supply	Yes	Yes	

	MNS iS Motor-Management		
			
	Motor Starter modul MStart / MControl	**MLink Interface**	
Data sheet	1TGC910001B0204	1TGC910241M0201	
Internet	www.abb.com/mns	www.abb.com/mns	
Application	MNS iS provides motor starter & feeder - fully standardized modules, selectable based on load rating - pre-assembled and tested from one central factory, simple re-order process, only the ID needed - only one type of intelligent relay required: Handles all load ratings & starter / feeder types, based on actual module location & motor type connected to it.	MLink provides the facility to connect MNS iS on a single entry point to a PLC or PCS via PROFIBUS. Depending on the PLC application MLink can support PROFIBUS DP(-V0) or V1. MLink acts as a standard PROFIBUS Slave device and support generic diagnostic.	
Ambient temperature	-5 … 55 °C	0 … 55 °C	
Type of protection	IP 30 bis zu IP 54	IP 20	
Explosion protection	ATEX certified	–	
Approvals	ASTA, Great Britain (resistance to accidental arcs acc. IEC 61641&IEC 60298, App. AA)	CE	
Overvoltage protection DP	–	Yes	
Physics		EIA 485 (RS 485)	
Protocol		PROFIBUS DP(V0) / V1	
Baud rate		≤ 1,5 Mbit/s	
Ident. No.		1TGE120021	
PI Certificate No.		Z01687	
Bus address local adjustment central adjustment		3 ... 125 (default 3) MNavigate MNavigate	
PA Profile		–	
Transducer Block (TB)		–	
Function Block (FB) *(Only for profile compliant devices)*	–	–	
FB Data length cyclical read write	– –	 0 ... 244 Byte 0 ... 244 Byte	
Device configuration central adjustment local adjustment	 MNavigate MNavigate	 MNavigate MNavigate	
Asset Monitor	Yes	–	
Active termination	–	(External only)	
External supply	Yes	Yes	

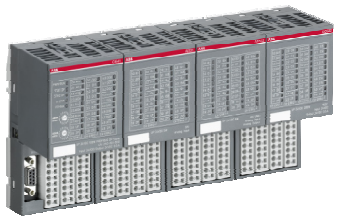
	Motor Management		Wireless Automation
			
	UMC100-FBP	**UMC22-FBP**	**WDIO100-CON-FBP**
Data sheet	2CDC135013D02xx	2CDC135001D02xx	2CDC171004D020x
Internet	www.abb.com	www.abb.com	www.abb.com
Application	**Universal Motor Controller:** Integrates motor management, advanced motor protection, fieldbus and diagnosis functions in one device. The internal logic can be adapted to customer specific needs. IO modules and a clear text LCD display are optionally available. Motor current range: 0.24 ... 63 A (built in current transf.) ≤ 3200 A (addit. current transformers)	**Universal Motor Controller:** Efficient control and protection of three-phase a. c. motors with electronic measurement of the motor current and with some additional features such as blocking detection and others. Motor current range: 0.24 ... 63 A (built in current transformers) ≤ 3200 A (additional current transformers)	**Wireless Input / Output Module:** Receives / transmitts up to 120 signals from / to wireless devices via two antennas and transmits them to the machine control via a field bus. Features: 2.4 GHz band with highest reliability due to dedicated ABB protocol with frequency hopping and automatic repeat requests. Provides configuration and diagnosis functions.
Ambient temperature	0 ... 60 °C	0 ... 55 °C	0 ... 55 °C
Type of protection	IP 20	IP 20	IP 20
Explosion protection	II (2) GD	II (2) GD	–
Approvals	CE, cUL, others in preparation	CE, cUL, GL, BV, LRS, ATEX	CE, UL, CSA, FCC, ETSI, MIC, CIIT
Overvoltage protection DP	–	–	–
Physics Protocol Baud rate Ident. No. PI Certificate No.	**via PROFIBUS Plug PDP22-FBP or PDQ22**	**via PROFIBUS Plug PDP22-FBP or PDQ22**	**via PROFIBUS Plug PDP22-FBP**
Bus address local adjustment central adjustment	1 ... 125 Panel –	1 ... 125 Panel –	1 ... 125 Keypad / Display –
PA Profile	–	–	–
Transducer Block (TB)	Low Voltage Switchgear	Low Voltage Switchgear	–
Function Block (FB) *(Only for profile compliant devices)*	Control of the contactors and the manual motor starter, motor current, additional I/O's	Control of the contactors and the manual motor starter, motor current, additional I/O's	Process data and diagnosis in cyclical data chosen; block- and single-parameters (depending on type configuration during first start-up).
FB Data length cyclical read write	 16 Byte 8 Byte	 6 Byte 4 Byte	 32 Byte 16 Byte
Device configuration central adjustment local adjustment	 DTM (BasicDTM-PB) or Software (e. g.: PLC) Panel	 DTM (BasicDTM-PB) or Software (e. g.: PLC) Panel	 Software (e. g.: PLC) via block or single parameters Keypad
Asset Monitor	Yes, in preparation	Yes	–
Active termination	(External only)	(External only)	(External only)
External supply	24 V DC	24 V DC	24 V DC

	Soft Starter		
			
	PST / PSTB	**PSR** (plus PSR-FBPA)	**PSE**
Data sheet	1SFC132004C02xx	1SFC132004C02xx	1SFC132042D02xx
Internet	www.abb.com	www.abb.com	www.abb.com
Application	The PST range is a microprocessor based soft starter designed with the latest technology for soft start and soft stop of three-phase a.c. motors. Functions like electronic motor overload protection, thermistor input, real time clock, phase monitoring, LCD display with clear text and more are standard. Motor current range: 9 ... 1810 A	The PSR range is a microprocessor based compact softstarter with built in by-pass contacts. The design offers a both soft start and soft stop functiongs to be used for three phase standard a.c. motors. Motor current range: 3 … 105 A	The PSE range is a compact microprocessor based soft starter with torque control and LCD display. The PSE softstarter is ideal for any application where space is limited, but where advanced functionality is still required. Motor current range: 18 .. 370 A
Ambient temperature	0 ... 50 °C	-25 … 60 °C	-25 … 60 °C
Type of protection	IP 20 / IP 00	IP 20 / IP 10	IP 20 / IP 00
Explosion protection	–	–	–
Approvals	CE, CCC, cULus, GL, ANCE, C-tick, GOST (for RU, UA)	CE, CCC, cULus, ANCE, C-tick, GOST (for RU, UA)	CE, CCC, cULus, ANCE, C-tick, GOST (for RU, UA)
Overvoltage protection DP	–	–	–
Physics Protocol Baud rate Ident. No. PI Certificate No.	**via PROFIBUS Plug PDP22-FBP**	**via PROFIBUS Plug PDP22-FBP**	**via PROFIBUS Plug PDP22-FBP**
Bus address local adjustment central adjustment	1 ... 125 Keypad –	1 ... 125 – Software (e. g. PLC)	1 ... 125 Keypad Software (e. g. PLC)
PA Profile	–	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	Control of start and stop of the motor, status information of voltage, currents, frequency and programmable I/O's etc	Control of start and stop of the motor, status of used MMS, and if local control	Control of start and stop of the motor, status information of voltage, currents, frequency and programmable I/O's etc.
FB Data length cyclical read write	 30 Byte 14 Byte	 1 Byte 1 Byte	 32 Byte 8 Byte
Device configuration central adjustment local adjustment	 Software (e. g. PLC) Keypad	 Software (e. g. PLC) –	 Software (e. g. PLC) Keypad
Asset Monitor	–	–	
Active termination	(External only)	(External only)	(External only)
External supply	100 ... 250 V AC 50 / 60 Hz	24 V DC, 100 ... 240 V AC	100 ... 250 V AC 50 / 60 Hz

	PROFIBUS Plug		
			
	PDQ22-FBP	**PDP22-FBP**	
Data sheet	2CDC192001D020x	2CDC192001D020x	
Internet	www.abb.com	www.abb.com	
Application	**PROFIBUS DP Plug:** Connection of up to for devices to the PROFIBUS DPV1. Optimal solution for motor control centers. The device (e. g UMC22) is mounted in a drawer. The PDQ22 is mounted in the cable chamber. No drop lines are created!	**PROFIBUS DP Plug:** Connection of devices with small to medium complexity to the PROFIBUS DPV1 and to the 24 V DC supply (hybrid cable) Examples for devices: Proximity switches, I/O modules, motor starter, soft starter, circuit breakers.	
Ambient temperature	0 ... 55 °C	0 ... 55 °C	
Type of protection	IP 67	IP 67	
Explosion protection	–	–	
Approvals	CE, UL, CSA, GL, BV, LRS	CE, UL, CSA, GL, BV, LRS	
Overvoltage protection DP	–	–	
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	
Ident. No.	0A09 HEX	082D HEX (UMC100-FBP: 34E0 HEX)	
PI Certificate No.	be applied	be applied	
Bus address local adjustment central adjustment	see UMC22-FBP or UMC100-FBP	see UMC22-FBP, UMC100-FBP, PST/PSTB, PSR, PSE, WDIO100-CON-FBP or I/O S500-FBP	
PA Profile			
Transducer Block (TB)			
Function Block (FB) *(Only for profile compliant devices)*			
FB Data length cyclical read write			
Device configuration central adjustment local adjustment			
Asset Monitor	see devices above	see devices above	
Active termination	(External only)	(External only)	
External supply	Yes, via hybrid bus cable	Yes, via hybrid bus cable	

	Redundancy Link Module	Operator Panels	
			
	RLM01	**Panel 800 5.1**	**Panel 800 Version 6**
Data sheet	3BDD011641R0301	3BSE044069	3BSE070214
Internet	www.abb.com/fieldbus	www.abb.com/EssentialAutomation	www.abb.com/EssentialAutomation
Application	PROFIBUS DP / FMS Redundancy Link Module Converts a non redundant RS 485 PROFIBUS DP / FMS line to two redundant RS 485 PROFIBUS DP / FMS lines and vice versa (line redundancy). - Monitoring of communication - Transparent for DPV1 services - Status- and error display - Repeater functionality	Panel 800 5.1 fast and powerful operator interface with serial and ethernet interfaces. The panels can be expanded with a module for Profibus DP. The panel is a slave node. All engineering using Panel Builder a PC-based configuration tool.	Panel 800 Version 6 is the new generation of Panel 800. Specifications as for the Panael 800 5.1 series. Profibus DP expansion interface is in preparation.
Ambient temperature	0 ... 50 °C	0 ... 50 °C	0 ... 50 °C
Type of protection	IP 20	IP 20	IP 20
Explosion protection	–	–	–
Approvals	CE, UL, CSA, Germanischer Lloyd for operation in maritime systems	CE, UL, DNV	CE, UL, DNV
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DP und FMS	PROFIBUS DP	PROFIBUS DP
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	(transparent)	09DA HEX	in preparation
PI Certificate No.	–	–	–
Bus address	(transparent)	1 ... 125 (default 10)	in preparation
local adjustment	–	–	
central adjustment	–	Software Panel Builder	in preparation
PA Profile	–	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	–	Bidirectional communication available. Motorola/Intel data format selectable. PLC scan time setting e. i. delay before new value write.	in preparation
FB Data length cyclical			
read	–	200 Byte	in preparation
write	–	200 Byte	in preparation
Device configuration			
central adjustment	–	Software Panel Builder	Software Panel Builder
local adjustment	Baud rate via switches	–	–
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(External only)
External supply	Yes (Redundant)	24 V DC	24 V DC

	I/O System	Remote I/O	
			
	S900	**S800**	**S700**
Data sheet	3BDD010420R0101	3BSE025986	3BDD015167
Internet	www.abb.com/controlsystems	www.abb.com/controlsystems	www.abb.de/controlsystems
Application	I/O system for zone 1 / zone 2 or Non-Ex applications. - Modular design with hot-pluggable modules - Redundant in power supply, communication interface and internal bus - HART pass through - HCIR - Hot Configuration In Run	Remote I/O system for Class 1 Zone 2 / Div.2 (890 series) or Non-Ex applications. - Modular design - Comprehensive distributed system - Communication with parent controllers over standard fieldbuses - HART pass through - Hot configuration in run - Redundancy on both, communication interfaces and I/O modules	Remote I/O system for Non-Ex applications. - Modular design - Comprehensive distributed system - Communication with parent controllers over industry-standard fieldbuses
Ambient temperature	-20 ... 60 °C	0 ... 55 °C	0 ... 55 °C
Type of protection	IP 20	IP 20	IP 20
Explosion protection	II 2 (1) G Ex [ia] ib IIC T4 and further	890 series: [Ex ia] IIC, Class 1 Zone 2 / Div. 2	–
Approvals	CE, ATEX, NEPSI, INMETRO, OBAC, GOST (for RU, UA, BY)	CE, ATEX (for 890 series only), CSA, FM, cULus, GOST, Marine approv., ISA Class G3 (ISA.S71.04)	CE, GL, UL, ISO 9001
Overvoltage protection DP	Yes (optional)	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DPV1	PROFIBUS DPV1	PROFIBUS DPV1
Baud rate	≤ 1.5 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	04D2 HEX	08D3 HEX(CI801), 0630 HEX(CI840)	34E4 HEX (PDP22)
PI Certificate No.	–	–	–
Bus address local adjustment central adjustment	0 ... 125 (default 0) Switch –	0 ... 99 Switch –	0 ... 99 Switch –
PA Profile	Remote I/O	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	**Analog:** standard I/O, with/without HART and temperature free configurable **Digital:** standard I/O and Ex i low power valves incl. quitting	**Analog:** standard I/O, Ex i (890 series), HART and temperature (RTD & TC) **Digital:** standard I/O (24 / 48 V DC and 120 / 230 V AC), impulse totalizer (1.5 Mhz) and relay output	**Analog:** standard I/O and temperature (RTD & TC) **Digital:** standard I/O (24 V DC and 120 / 230 V AC), frequency and puls and relay output
FB Data length cyclical read write	 together 0 ... 216 Byte	 0 ... 239 Byte 0 ... 112 Byte	 0 ... 216 Byte 0 ... 216 Byte
Device configuration central adjustment local adjustment	 DTM –	 DTM –	 GSD –
Asset Monitor	–	–	–
Active termination	(External only)	(External only)	(via PDP22 only)
External supply	Yes	Yes	Yes

	Remote I/O	Distributed Automation	
			
	S200	**CI541-DP / CI542-DP (-XC)**	**PLC AC500:** (PM571, PM58x, PM59x)
Data sheet	3BSE021380R201	2CDC124084M6801 / 2CDC124085M6801 3ADR025078M0201	2CDC125001B0201 2CDC125080M0201
Internet	www.abb.com/controlsystems	www.abb.com/plc	www.abb.com/plc
Application	Remote I/O system for Class 1 Div.2 or Non-Ex applications. - Modular design - Comprehensive distributed system - Communication with parent controllers over industry-standard fieldbuses	Modular expandable slave communication interface modules for PROFIBUS DP V0/V1. Onboard IO with type depending on the model (mixed digital/analog or only digital). Expendable with up to 10 modules with DI, DO, AI and AO. Onboard high speed counter up to 50 KHz. Version (-XC) available for eXtreme Conditions (extended temperature and aggressive gases according to ISA.S71.04 Class G3).	Modular PLC family for central and decentralized use. Expendable with 10 modules: DI, DO, AI & AO. 2 serial interfaces RS232 / RS485 (Modbus integr.). Integrierter CS31-Bus and FBP slave interface, ARCNET / Ethernet. Up to 4 Master couplers: ASCII / RCOM / PROFIBUS DP / DeviceNet / CANopen / Ethernet / PROFINET and EtherCAT with internal 2 ports switch. User memory: 64 kB - 4 MB.
Ambient temperature	0 … 55 °C	0 … 60 °C / -30°C … 70°C (-XC)	0 … 60 °C
Type of protection	IP 20	IP 20 / ISA Class G3 (-XC)	IP 20
Explosion protection	UL1604 Class 1 Div 2	–	–
Approvals	CE, UL 508 and UL1604	CE, cUL, cTIC, ABS, BV, DNV, GL, LRS, RINA, RMRS, GOSTc	CE, cUL, cTIC, ABS, BV, DNV, GL, LRS, RINA, RMRS, GOSTc
Overvoltage protection DP	–	–	–
Physics	EIA 485 (RS 485)	EIA 485 (RS 485)	EIA 485 (RS 485)
Protocol	PROFIBUS DP	PROFIBUS DP	PROFIBUS DP
Baud rate	≤ 12 Mbit/s	≤ 12 Mbit/s	≤ 12 Mbit/s
Ident. No.	7363 HEX	34A9 HEX / 34AA HEX	in preparation
PI Certificate No.	–	in preparation	–
Bus address local adjustment central adjustment	1 … 99 (default 00) switches with indication –	1…255 Rotary switches –	1 ... 99 (FBP) on-board display / keyboard –
PA Profile	–	–	–
Transducer Block (TB)	–	–	–
Function Block (FB) *(Only for profile compliant devices)*	**Analog:** standard I/O and temperature (RTD & TC) **Digital:** standard I/O (24 V DC and 120 / 230 V AC), frequency and puls (max. 100 khz) and relay output	–	Programmable according IEC61131-3 multitasking with high performance, open and closed loop control, PI and PID controller, encoder input, 32-bit integer and floating-point
FB Data length cyclical read write	 244 Byte 244 Byte	 0 ... 240 Byte (Slave) 0 ... 240 Byte (Slave)	 0 ... 240 Byte (Slave) 0 ... 240 Byte (Slave)
Device configuration central adjustment local adjustment	Fieldbus configurator integrated in PLC programming software Control Builder, SattLine and SattCon. –	Fieldbus configurator integrated in PLC programming software Automation Builder Rotary switches	Fieldbus configurator integrated in PLC programming software Automation Builder –
Asset Monitor	–	–	–
Active termination	(External only)	Yes, integrated	(External only)
External supply	24 V DC	Yes	Yes

	Network components , Accessories for EIA 485 (RS 485)													
	Adap-ter	Passive / active junctions						Connectors				Cables		
	NDA121-NO	**NDJ120-NO**	**NDJ122-NO**	**NDJ130-NO**	**NDJ132-NO**	**NDJ120-NOS**	**NDJ122-NOS**	**NDE210-NO**	**NDE220-NO**	**NDE230-NO**	**NDE100-NE**	**NDC110-NO**	**NDC110-EX**	
Data sheet	10/63-6.41	10/63-6.40										10/63-6.47		
Installation suggestion	10/63-0.40													
Internet	www.abb.com/fieldbus													
For hazardous areas														
USB / PB DP adapter	•													
Windows XP, Vista, 7, 8 (32 / 64bit)	•													
DP rate ≤ 12 Mbit/s	•													
For hazardous areas														
Housing aluminum		•	•	•	•									
Housing stainless steel						•	•							
Bus termination active incl.			•		•		•							
One-way (T) junction		•	•	•	•	•	•							
Output - cable bushing				•	•									
Output - socket M12		•	•			•	•							
For hazardous areas											•			
For Non-Haz. areas											•			
Plug SUB-D, 9-pos								•	•	•				
Plug M12											•			
Metal housing											•			
Bus termination incl.									•	•				
Programming connection SUB-D										•				
For hazardous areas													•	
2 x 0.33 mm^2 (AWG22/1)												•	•	

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