

# Communicator™ DF1

With the Anybus Communicator DF1 you can connect your non-networked device to any major fieldbus or industrial Ethernet network. The Communicator performs an intelligent conversion between the DF1 protocol of the automation device and the chosen industrial network. This compact gateway consumes very little space in a switching cabinet and is easily mounted on a standard DIN rail.



## Typical Industries



## In-short

Anybus Communicator with a configurable serial RS-232/422/485 Rockwell DF1 interface to fieldbus and Industrial Ethernet.

## Network:

CANopen  
CC-Link  
CC-Link IE Field  
ControlNet  
DeviceNet  
EtherCAT  
EtherNet/IP  
EtherNet/IP 2-port  
FIPIO  
Interbus  
Modbus Plus  
Modbus RTU  
Modbus TCP  
PROFIBUS  
PROFINET IO

## Part No:

AB7003  
AB7008  
AB7077  
AB7006  
AB7001  
AB7061  
AB7007  
AB7072  
AB7011  
AB7012  
AB7002  
AB7010  
AB7028  
AB7000  
AB7013

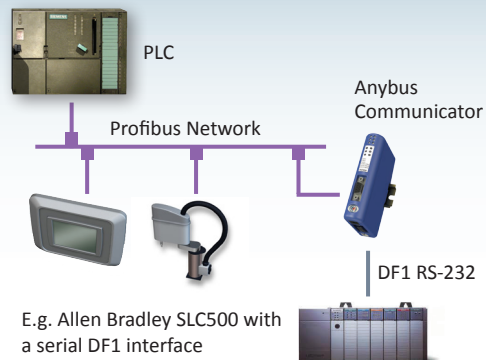
## Optional accessories

USB-RS232 configuration adapter  
Part No: 019570

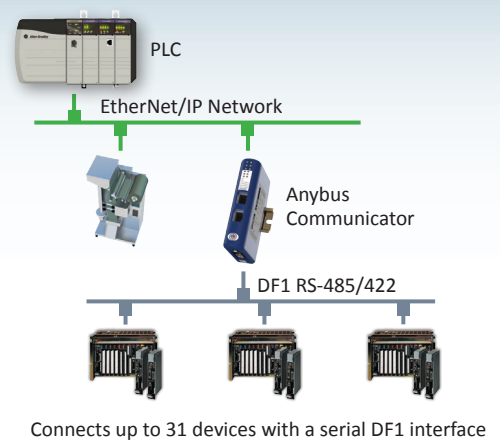


HMS provides a full 3 year product guarantee

### APPLICATION EXAMPLE SINGLE-DROP



### APPLICATION EXAMPLE MULTI-DROP



## Features and benefits

- When converting the DF1 protocol the Communicator acts as a DF1 Master on the serial network
- Enables any automation device with RS-232/422/485 DF1 interface to participate on a network
- No hardware or software changes are required for the connected automation devices
- Compatible with PLC's from leading manufacturers such as Siemens, Rockwell, Schneider Electric etc.
- Complete protocol conversion performed by the Communicator, no PLC function blocks required
- Handy Save/Load function means a completed configuration can be re-used for many other installations
- Versions with Dual Port switched Ethernet allows for daisy chaining and eliminates the need for external switches
- Global free technical support and consultancy
- See [www.anybus.com](http://www.anybus.com) for application notes and instruction videos on how to configure the gateway

## Anybus Configuration Manager software

Anybus Configuration Manager supports all network versions of the Communicator.

This Windows™ based software has an easy-to-use user interface and requires no programming.

For industrial devices with a Rockwell DF1 serial interface, HMS takes away the hassle of scripting by allowing easy generation of DF1 scan lists.

Anybus Configuration Manager can be used to configure additional protocols such as Modbus-RTU, ASCII or customer specific protocols.



## TECHNICAL SPECIFICATIONS

Communicator DF1		
Protocol	DF1 Master, Half duplex	
Max stations	31 (with RS485/422)	
Baud rate	2,4-38,4 kbit/s	
Physical standards	RS232/422/485	
DF1 Services	0x01 Integrity Check, 0x02 Read Diagnostics, 0x03 Read Data, 0x04 Write Data Customized services can be created (in the Anybus Configuration Manager)	
Technical Details		Standard
Weight	150 g, 0,33 lb	
Dimensions (L*W*H)	120*75*27 mm, 4,72*2,95*1,06"	
Protection class	IP20, NEMA rating 1	
Enclosure material	PC ABS, UL 94	
Installation position	Any	
Mounting	DIN rail (35*7,5/15)	EN 50022
Certifications		
UL	File number: E203225	UL 508 Ind. Cont. Eq.
Hazardous Locations	CLASS 1, DIVISION 2, GROUPS A, B, C AND D, T4	ISA 12.12.01
CE	2004/108/EC	EN 61000-6-4 EN 61000-6-2
Electrical Characteristics		
Power	24 VDC +/- 10 %	
Current consumption	Max 300 mA, Typical 100 mA	
Hardware Characteristics		
Reverse voltage protection	Yes	
Short circuit protection	Yes	
Galvanic isolation on subnetwork	Yes	
MTTF	>550 000 h	Telcordia Issue 2, Method 1 Case 3 at 30 °C
Environmental Characteristics		
Operating temp	0 to 55 °C, 32 to 131 °F	
Storage temp	-40 to 85 °C, -40 to 185 °F	
Relative Humidity	0-95 % non condensing	
Installation altitude	Up to 2 000 m	
Immunity and emission for industrial environment		
Electrostatic discharge	+/- 4 kV	EN 61000-4-2
Electro magnetic RF fields	10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz	EN 61000-4-3
Fast Transients	+/- 1 kV	EN 61000-4-4
Surge protection	+/- 1 kV	EN 61000-4-5
RF conducted interference	10 V/rms	EN 61000-4-6
Emission (at 10 m)	40 dB 30 MHz - 230 MHz 47 dB 30 MHz - 1 GHz	CISPR 16-2-3
Single Pack Accessories		
• Resource CD • Configuration Cable (RS232) Port • Installation sheet • Dsub with screw terminals for subnetwork		

## NETWORK SPECIFIC FEATURES

1 = Network connector, 2 = Baud rate,  
3 = I/O data, 4 = Other

<b>CANopen</b>	1 = DSUB9M 2 = Up to 1 Mbit/s 3 = 512 byte IN/OUT 4 = Supports profile CIA DS301 V4.02
<b>CC-Link</b>	1 = 1*5p; 5.08 Phoenix Plug 2 = Up to 10 Mbit/s 3 = 128 IO points, 16 word IN/OUT 4 = Up to 4 occupied stations
<b>CC-Link IE Field</b>	1 = 2*RJ45 2 = 1 Gbit/s 3 = 512 byte IN/OUT 4 = CC-Link IE Field Network, Intelligent Device Station
<b>ControlNet</b>	1 = 2*BNC Coax + RJ45 (NAP) 2 = 5 Mbit/s 3 = 450 byte IN/OUT 4 = Communications adapter, profile n. 12
<b>DeviceNet</b>	1 = 1*5p; 5.08 Phoenix Plug 2 = 125-500 kbit/s 3 = 512 byte IN/OUT 4 = Communications adapter, profile n. 12
<b>EtherCAT</b>	1 = 2*RJ45 2 = 100 Mbit/s 3 = 512 byte IN/OUT 4 = DS301 V4.02 compliant, 4 FMMU Channels
<b>EtherNet/IP</b>	1 = RJ45 2 = 10/100 Mbit/s 3 = 512 IN/OUT 4 = EtherNet/IP group 2 and 3 server. Modbus/TCP slave functionality
<b>EtherNet/IP 2-port</b>	1 = 2*RJ45 2 = 10/100 Mbit/s 3 = 512 IN/OUT 4 = EtherNet/IP group 2 and 3 server. Modbus/TCP slave functionality
<b>FIPIO</b>	1 = DSUB9M 2 = 1 Mbit/s 3 = 32 words IN/OUT (cyclic) 4 = Data exchange according to FIPIO Extended Device Profile, Class 0
<b>Interbus</b>	1 = DSUB9F + DSUB9M 2 = 500 kbit/s, 2 Mbit/s 3 = 20 byte IN/OUT (process data), 512 bytes IN/OUT (with PCP) 4 = Interbus PCP V.2.0
<b>Modbus Plus</b>	1 = DSUB9F 2 = 1,2-57,6 kbit/s 3 = 32 words IN/OUT (global data), 512 words IN/OUT (register data) 4 = -
<b>Modbus RTU</b>	1 = DSUB9F 2 = 1,2-57,6 kbit/s 3 = 512 byte IN/OUT 4 = RS232 and RS485
<b>Modbus TCP</b>	1 = RJ45 2 = 10/100 Mbit/s 3 = 512 byte IN/OUT 4 = Class 0, 1 and partially class 2 slave functionality
<b>PROFIBUS</b>	1 = DSUB9F 2 = Up to 12 Mb 3 = 244 IN/OUT (416 total) 4 = Profibus DP (IEC 61158)
<b>PROFINET IO</b>	1 = RJ45 2 = 100 Mbit/s 3 = 512 byte IN/OUT 4 = RT Communication and Cyclic data exchange



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