AS-i/CANopen Gateway

Bihl + Wiedemann

Automatisierungstechnik

AS-i Gateway to CANopen

1 or 2 AS-i Masters

AS-i Scope function

New AS-i Specification 2.1

Function

The AS-i/CANopen-Gateway serves to connect the AS-i to a superordinate CANopen. The Gateway acts as a complete Master for the AS-i and as a slave for the CANopen.

AS-i Specification 2.1

The AS-i/CANopen-Gateways already fulfil the AS-i Specification 2.1. This means:

- Up to 62 AS-i slaves can be connected per 1 AS-i network
- The transfer of analog signals via AS-i is integrated in the Masters
- All further functions of the new specification as e. g. the diagnosis of the AS-i peripheral fault are implemented.

AS-i Scope Function

Diagnostics, which go far beyond the standard diagnostics facilitate the simple detection of the occassionally occuring configuration errors and further irritations towards the AS-i communication. So in case of an error the down time of machines can be minimized or you can initiate preventive maintenance.

Commissioning and Monitoring

The AS-i/CANopen Gateways can be commissioned with the help of the software "AS-i Control Tools" in combination with the CANopen Master Simulator. The EDS file is included in the package.

Commissioning, debugging and setting up of the AS-i parameters without the software can only be accomplished with the use of two push-buttons, the display and the LEDs directly on the system.

Gateways with Graphical Display

The AS-i Gateways with Graphical Display are a high-end solution to link AS-i with a superior CANopen system.

Simple and Fast Commissioning

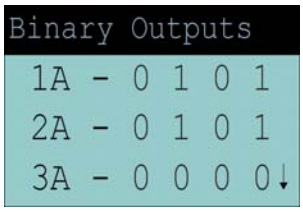
Using the AS-i Gateway with Graphical Display, the entire AS-i network can be commissioned and the connected periphery can be completely tested without CANopen Master. The new interactive graphic display also enables the user to complete all tasks which previously required the "AS-i Control Tools" software package. This allows for simpler and faster commissioning.

Addressing Unit within the AS-i Master

With the help of the new graphical display, the hand held unit is now obsolete. The slaves can now be easily addressed directly on the gateway. Slaves with extended address mode are detected automatically and are used only when allowed. This ensures that no two AS-i slaves with the same address will be on the same network.

Testing of Connected Periphery without Additional Test Tools

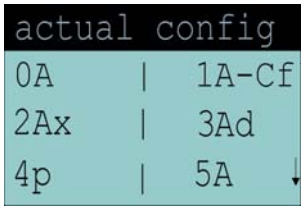
Once the AS-i is put into operation, the cabling and the connected sensors and actuators can be tested, inputs can be read and outputs can be set and even analog sensors and actuators can be checked just using the Gateway with Graphical Display.



On-board Diagnostics:

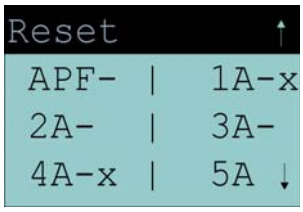
Configuration Fault, Periphery Fault

At a glance, the display shows the configuration faults (missing slave, additional slave detected, wrong slave type) as well as periphery faults, such as a short circuit at a sensor cable. This allows the user to get the proper information to solve the problem in the shortest amount of time.



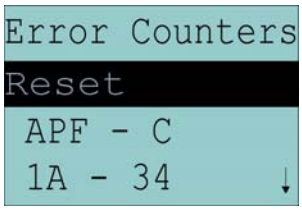
Detection of Occasional Faults

A list of slaves, which have previously caused an error, is also available through the graphical display. This can be very helpful in solving problems.



Scope Functions shown on the Display

While strange phenomena can occur as the AS-i gets to its limits (e. g. cable length >100 m, EMC problems), the AS-i Gateway with Graphical Display has on-board diagnostic tools. With the help of the AS-i error counters the user can easily check the quality of AS-i communications. The user can then test the impact of any actions taken.



Accessories:

- CANopen Master Simulator (Article no. BW1186)
- Transmission cords for AS-i/CAN Gateways (Article no. BW1226)
- Software AS-i Control Tools (Article no. BW1203)

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AS-i Gateway to CANopen

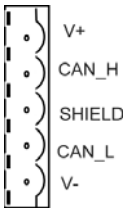
1 or 2 AS-i Masters

AS-i Master
CANopen slave

Advanced AS-i diagnostics

AS-i Scope function

AS-i Specification 2.1



Graphical display, Spec. 2.1	Art. no. BW1448	Art. no. BW1449
Operating current	Power supply A Approx. 200 mA out of AS-i	Master power supply A with plug connectors: Approx. 200 mA out of AS-i circuit 1 Approx. 70 mA out of AS-i circuit 2 without plug connectors: Approx. 150 mA out of power supply Approx. 70 mA out of AS-i circuit 1 Approx. 70 mA out of AS-i circuit 2
Operating voltage	AS-i voltage 30 V DC	24 V DC (18-31,6 V DC)
Terminals	CANopen: according to the DeviceNet specification AS-i: according to AS-i specification	
AS-i cycle time	150 µs*(Number of slaves + 1)	
CANopen-Features	Extended boot-up, minimum boot-up, life guarding COB ID Distribution DBT, SDO, Default Node ID Distribution SDO, Switch No of PDOs up to 70 Rx, 70 Tx PDO Modes async, cyclic, acyclic Device Profile CiA DS-301	
Displays		
LCD	Displaying AS-i slave addresses and error messages	
LED green (power)	CANopen voltage OK	
LED green/red (MNS)	Module/Net status	
LED red (config error)	Configuration error	
LED green (U AS-i)	AS-i voltage OK	
LED green (AS-i active)	AS-i in normal operation	
LED green (prg enable)	Automatic address programming enabled	
LED yellow (prj mode)	Configuration mode active	
Push-buttons	4	
Voltage of insulation	≥ 500 V	
EMC directions	EN 50082, EN 50081	
Operating temperature	0°C … +55°C	
Storage temperature	-15°C … +70°C	
Housing	Housing for DIN-rail mounting, LDG-A-30	
Dimensions (L, W, H)	75 mm, 100 mm, 110 mm	
Protection category (DIN 40 050)	Housing IP40 Terminals IP20	

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