

METRAHit® 1 ASI

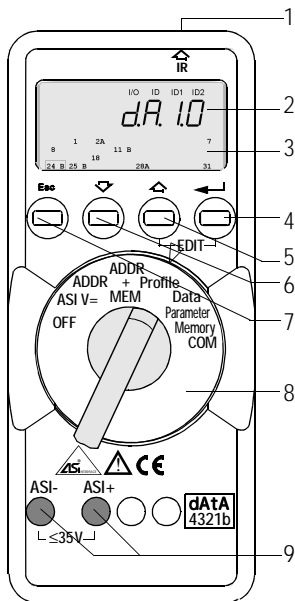
Addressing and Diagnosis Instrument
 for AS-i Modules (incl. extended specification V2.1)


3-349-109-37


2/11.00

Control and Display Elements, Symbols


- 1 Infrared interface
- 2 Main display window
- 3 Address field:
display of assigned addresses
- 4 Acknowledge entered value
- 5 Increase value
- 6 Decrease value
- 7 Return / escape*
- 8 Rotary function selector switch
- 9 Jacks for connection to AS-i bus



 AS-i-certification

 May only be operated by qualified personnel
 (Attention: observe documentation!)

 Indicates CE conformity

* Return to the previous menu level with ESC instead of  without executing the selected function.



Attention!

Changing system states during an active process sequence may be **life endangering**, or may cause damage to system components if malfunctioning or program errors occur.

Make sure that dangerous situations will not arise before executing functions such as Data or Parameter etc.



Note!

Battery Replacement

When the “-|” symbol appears at the display, the batteries should be replaced or recharged as soon as possible. Disconnect the instrument from the AS-i bus before opening.

Stored data are lost when the batteries are replaced. We recommend saving your data to a PC with the help of ASI.doc-win[®] software before replacing the batteries.

OFF

Switching the Instrument Off Manually – Set Switch to OFF Position

Automatic Shutdown – Any Switch Position Except for OFF:

Your instrument switches itself off automatically if none of the keys or the rotary switch have been activated for a period of approximately 10 minutes. Exception: after 1 minute in the Data and Parameter function modes. After automatic shutdown, the instrument can be switched back on by activating the rotary switch or the ↵ key.

ASI V=

Display AS-i Voltage and AS-i Power Consumption

300V: external AS-i voltage

0025 A: If no external AS-i voltage is applied to the slaves, power consumption is displayed.


AS-i power packs and AS-i masters which have been switched off must be isolated from the bus! The use of an external AS-i power pack is recommended for slaves with high power consumption (e.g. analog modules).


ESC: Change to battery voltage display and return to previous display.


ADDR address: **Addressing without saving the bus configuration**
Slaves can be selected and readdressed with this function.

 search: Find all slave addresses within the bus.

 **888** All detected addresses are displayed.
usex: One of the detected addresses is displayed.

 usex: Select the slave to be readdressed.

 Acknowledge your selection.
(no selection required if only 1 slave is connected)

 **888** The slave address blinks in the address field.
setx: The current address is displayed.

 Select a new address for the current slave if desired.

 Transfer the new address to the slave.



Note!

If two or more modules with the same slave address are detected at the AS-i bus, **dbl add** is displayed at the instrument. The corresponding address blinks in the address field.

ADDR+MEM addmem: **Addressing and storage of the bus configuration to memory**
Function identical to ADDR, except that newly generated addresses are stored to RAM (memory 0). **Assigning the same address to two slaves is prevented** by storing data to RAM. RAM should be cleared before assigning addresses for a new system. To delete RAM:
Simultaneously activate the ↑ and ↓ keys. **cl r0** appears at the display. Acknowledge with the ↓ key.

Profile

profi I: Reading and Writing Slave Profiles

search: Find all slave addresses within the bus.

A detected address blinks and the respective slave profile is displayed.



Select a slave.

888

The address blinks and slave profile is displayed.



Only for slaves in accordance with extended AS-i specification V2.1 (4-place code display):

Select EDIT level



Select a new value for ID1 if desired.

888

The value for ID1 blinks at the main display window.



Transfer the new value to the slave.

Note: *The slave profile is used for identification of module types. It consists of an I/O code and an ID code. Modules in accordance with extended AS-i specification V2.1 also include an ID1 code and an ID2 code. The ID1 code can be changed (see instructions for the respective module). The other codes are permanently programmed into the module.*

Data

data: Reading and Writing Slave Data – Display Mode

One of two different display types can be selected:

di rEct: Displays raw slave data.

Shi Ft3: Representation in "S7 Mode"

Points are displayed between the characters.

Data from the slave are multiplied by 8,

data to the slave are divided by 8.

Selecting a Display Mode



EDIT: Activate the settings menu.




Switch back and forth between **di rEct** and **S.h.i .F.t.3**.




Acknowledge your selection.

The peripheral fault flag is indicated by means of a blinking PFF segment in the header at the display.

Data data: Reading and Writing Slave Data

 search: Find all slave addresses within the bus.

 Select a slave (does not apply if addressing plug is used).

888

4 different displays are possible:

data / 4321b: Assignment of binary inputs and outputs to the display

Binary inputs: 0001b (read-only binary values)

Binary outputs: --00b (no out, if no output)

Non-existent inputs and outputs appear as "--".

Input data are continuously updated.


Analog inputs: Ch i np (channel input)

Analog outputs: no /np (no channel input)


Slaves with Binary Outputs

 EDIT: Activate the settings menu.


 Change the value.

 Transfer the value to the slave.

Slaves with Analog Outputs


 Acknowledge slave selection.

 Chn: Select a channel.

 Acknowledge channel and display the value, return with ESC.


Slaves with Analog Outputs

 EDIT: Activate the settings menu.







 Chn: Select a channel.

 Acknowledge the selected channel and display the value.

 Change the value.









 Transfer the value to the slave.

Parameter para: Reading and Writing Slave Parameters in Hex Format

-  search: Find all slave addresses within the bus.
The first assigned address blinks.
-   Select a slave.
-  Address blinks, parameter is displayed in hexadecimal format.
-  +  EDIT:
Open menu for reading and editing parameters.







Slaves with Parameter String, e.g. Analog Slaves

read is displayed briefly. The parameter number appears at the left, and the respective value at the right.

-    Select the desired parameter.
-  Acknowledge the selected parameter.
-   Select a new parameter value.
-  The hex value blinks at the main display.
-  Transfer the parameter to the slave.

Slaves without Parameter String, e.g. Digital Slaves

Select a new parameter value.

-    Select a new parameter value.
-  The hex value blinks at the main display.
-  Transfer the parameter to the slave.
Changed parameters which have been transferred to the slave can be deleted with clr0 after setting the selector switch to Memory.
-  echo XH: The received parameter echo is displayed in hexadecimal format.

Memory

memo: Loading, Saving, Deleting and Copying Data Records

All addresses included within a system which has been saved to memory can be transferred to the individual slaves for a new system, one after the other, in the "copy" operating mode.

ESC Display available memory capacity in %.



Deleting Data Records

clear clrx

Delete contents of memory address 0 (RAM), or memory address 1, 2, 3 or 4, or ALL (0 through 4).



Loading Data Records

recall rclx

Load the contents of memory address 1, 2, 3 or 4 to memory address 0 (RAM).



Saving Data Records

store stox

Save contents of memory address 0 (RAM) to memory address 1, 2, 3 or 4.



Copying Slave Addresses

copy cpyx ready set to clradr or ESC

cpyx : Copy all addresses from memory address x.

Connect the slave with the addressing plug. The address of the connected slave blinks at the display, which corresponds to a slave profile.

set to : Start transfer of the address.

clradr : Delete the slave displayed in the address field.

empty appears after all addresses have been transferred.

ESC: If several slaves are to be programmed with the same profile, this address is not deleted from the address field.

ready: Prompts user to select next slave.

COM

com: **Selecting and Activating a PC Port**

Port active:

Two of the segments in the "0" rotate clockwise.

 **888**



EDIT: Setup mode for the PC port



Select a port: **bd232** (RS232)



Save your selection to memory.

ESC

Return to the main display.

Querying the Firmware Version

888

3.4:

Press and hold the ↓ key with the instrument switched off (rotary switch in the OFF position), and turn the rotary switch to the ASI V= position without releasing the ↓ key. Now press the ↓ key three times and hold it depressed after the third activation. A two digit number with the format x.y appears at the display.

Maintenance

Replacing the Batteries

- ❏ Place the instrument face down onto the work surface and loosen the two screws at the rear panel. Lift away the housing base starting at the bottom. The housing top and base are held together with snap hooks at the top front.
- ❏ Pry the batteries from the clamp-type holder with a screwdriver: Position the screwdriver next to internal components, or at the middle of the battery. Insert 4 new batteries making sure to observe the polarity markings in the clamp-type battery holder.

Important for reassembly: First place the housing base squarely onto the housing top (see figure below), and then press them together, first at the bottom (a) and then at the top front (b).



- ❏ Retighten the two screws in order to fasten the housing base to the housing top.
- ❏ Please dispose of depleted batteries in an environmentally sound fashion!

Housing Maintenance

No special maintenance is required for the housing. Keep outside surfaces clean. Use a slightly dampened cloth for cleaning. Avoid the use of cleansers, abrasives and solvents.

Characteristic Values

	Measuring Range	Measuring Accuracy
Voltage	2 ... 35 V	$\pm(3.5\% \text{ of reading} + 2 \text{ d})$
Current (for slaves)	0 ... 0.1 A	$\pm(5\% \text{ of reading} + 2 \text{ d})$

Intrinsic resistance during voltage measurement: approx. 300 k Ω

Key: d = digit(s)

Power Supply

The standard power supply consists of 4 batteries per IEC LR6 with a service life which allows for addressing at least 2500 devices. Rechargeable batteries may also be used (accessory battery set 1ASI including battery charger, article number Z206B). In order to extend battery service life, automatic shutdown occurs approx. 1 minute after the last key or switch activation.

Electromagnetic Compatibility (EMC)

Interference Emission EN 61326, class B
Interference Immunity EN 61326

Ambient Conditions

Operating Temperature 0 °C ... +50 °C
Storage Temperature -20 °C ... +75 °C (w/o batteries)
Relative Humidity max. 75%,
no condensation allowed
Elevation to 2000 m
Deployment indoors only

Mechanical Design

Protection housing: IP 50
connector jacks: IP 20
Dimensions 84 mm x 195 mm x 35 mm
Weight approx. 450 gr. with batteries

System Messages

The following messages must be acknowledged with the ↵ key in order to return to the currently selected function.

Message	Function	Significance
comerr	COM	Transmission error
dbl add	ADDR	Same address occurs twice (doublet)
Echo	Parameter	Received parameter XH
empty	Memory (copy)	Entire system has been copied
error	Data, Parameter	Address 0: Data and parameters cannot be read
found	ADDR	Slave addresses recognized
hi load	ASI V=	Current load too high for addressing device
i ntern	ASI V=	No AS-i power pack at bus
master	ADDR, Profile, Data, Parameter, Memory	Active master at bus
no asi	ADDR	Can't find any slave addresses
no out	Data	This slave type has no outputs
no i np	Data	This slave type has no inputs
nopara	Para	Can't find parameters
notequ	Memory (copy)	Can't find suitable slave profile
ol .	ASI V=	Overload: UASi > 35 V
-pol	ASI V=	Voltage < -2 V (-pol blinks)
prgerr	ADDR, Profile, Data, Parameter, Memory	Programming error
Prog	Data, Para, Memory (copy)	Transferring data to the slave
read	ADDR, Profile, Data, Parameter, Memory	Reading data
search	ADDR, Data	Searching for slave addresses
ual bi t	Data	Faulty valid bit
usenot	Data, Profile	Address 0 not allowed
useone	Memory (copy)	Only 1 slave can be copied, use addressing plug

Repair and Replacement Parts Service DKD Calibration Lab and Rental Instrument Service

When you need service, please contact:

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e-mail fr1.info@gmc-instruments.com

This address is only valid in Germany.
Please contact our representatives or subsidiaries for service in other countries.

Product Support

When you need support, please contact:

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