Diagnostic

USER MANUAL

Translation of the original instructions

Version: **1.0**

Date: **22/05/2023**

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VERSION	DATE	CHANGES
1.1	22/05/2023	-

Any information inside this manual can be changed without advice.

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www.eelectron.com

Exclusion of liability:
Despite checking that the contents of this document match the hardware and software, deviations cannot be completely excluded. We therefore cannot accept any liability for this.
Any necessary corrections will be incorporated into newer versions of this manual.

Symbol for relevant information 

Symbol for warning 

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1. Diagnostic

This function allows you to monitor the data relating to the current and voltage of the BUS and AUX lines and to set six threshold controls for optimal load management.
In particular, the **"Traffic load control"** function of the BUS line allows you to know the quantity (in %) of messages exchanged on the BUS to check the efficiency of the KNX network.

Configuration

Communication objects involved:

"<Diagnostic> BUS Voltage"	4 Bytes	CRT
"<Diagnostic> BUS Voltage Threshold"	1 Bit	CRT
"<Diagnostic> AUX Voltage"	4 Bytes	CRT
"<Diagnostic> AUX Voltage Threshold"	1 Bit	CRT
"<Diagnostic> Current"	4 Bytes	CRT
"<Diagnostic> Current Threshold"	1 Bit	CRT
"<Diagnostic> Power On - Counter"	4 Bytes	CRT
"<Diagnostic> Power On - Reset"	4 Bytes	CW
"<Diagnostic> Traffic Load"	1 Byte	CRT
"<Diagnostic> Traffic Load Max"	1 Byte	CRT
"<Diagnostic> Traffic Load Max Reset"	1 Bit	CW

KNX PARAMETER	SETTINGS
Diagnostic for BUS voltage	disabled/enabled
With this parameter it is possible to enable the 4 bytes object "<Diagnostic> BUS Voltage".	
Diagnostic for AUX voltage	disabled/enabled
With this parameter it is possible to enable the 4 bytes object "<Diagnostic> AUX Voltage".	
Diagnostic for total current (BUS+AUX)	disabled/enabled
With this parameter it is possible to enable the 4 bytes object "<Diagnostic> Current".	
Power ON counter	disabled/enabled
With this parameter it is possible to enable the following objects: • "<Diagnostic> Power On - Counter" (4 bytes) to indicate the number of times the device is switched on; • "<Diagnostic> Power On - Reset"(1 bit) to reset the value of counter.	
Traffic load control	disabled/enabled
With this parameter it is possible to enable the following objects: • "<Diagnostic> Traffic Load" (1 byte) to indicate the actual BUS load; • "<Diagnostic> Traffic Load Max" (1 byte) to indicate the maximum value registered for BUS load; • "<Diagnostic> Traffic Load Max Reset" (1 bit) to reset the value of maximum BUS load.	
Cyclic sending time	no cyclic sending 1 ... 10 min 15, 20, 25, 30, 45 min 1, 1.5, 2, 3, 4 hours
This parameter defines the time interval to send cyclically on the BUS the object "<Diagnostic> Traffic Load".	
Send on variation	none 1 ... 7 %
It defines whether the device will send telegrams on the bus when the deviation occurs, i.e. the indicated percentage variation. **none** No sending of telegrams. **1 ÷ 7%** Deviation value from the traffic load that will determine the sending of telegrams.	

BUS Voltage - AUX Voltage - Current

KNX PARAMETER	SETTINGS
Voltage data type	DPT 14.027 electric potential (V) DPT 9.020 voltage (mV)
For the voltage, It defines the DPT for the objects "<Diagnostic> BUS Voltage" and "<Diagnostic> AUX Voltage".	
Current data type	DPT 14.019 electric current (A) DPT 9.021 current (mA) DPT 7.012 current (mA)
For the current, It defines the DPT for the object "<Diagnostic> Current".	
Average algorithm	fast normal slow
It defines how fast the mean voltage / current is calculated.	
Cyclic sending time	no cyclic sending 1 ... 10 min 15, 20, 25, 30, 45 min 1, 1.5, 2, 3, 4 hours
This parameter defines the time interval to send cyclically on the BUS the objects "<Diagnostic> BUS Voltage", "<Diagnostic> AUX Voltage" and "<Diagnostic> Current".	
Send on variation	none 100 ... 900 mV 1 V
For the voltage, it defines whether the device will send telegrams on the bus when the deviation occurs. **Never** No sending of telegrams. **100 ÷ 900 mV** Deviation value from the actual voltage that will determine the sending of telegrams.	
Send on variation	none 50 ... 500 mA
For the current, it defines whether the device will send telegrams on the bus when the deviation occurs. **Never** No sending of telegrams. **50 ÷ 500 mA** Deviation value from the actual current that will determine the sending of telegrams.	
Threshold function	disabled / enabled
With this parameter it is possible to enable one of the objects among "<Diagnostic> BUS Voltage Threshold", "<Diagnostic> AUX Voltage Threshold", "<Diagnostic> Current Threshold".	
Threshold value [*100 mV]	210 ... 300
In case of AUX/BUS voltage, it defines the threshold value	
Threshold value [*10 mA]	0 ... 64
In case of current, it defines the threshold value.	
Hysteresis	100 ... 900 mV 1 V
It defines the hysteresis value to be applied on threshold.	

Telegram when value is above threshold	nothing off on
It defines whether the device will send telegrams on the bus when the value is above threshold.	
Telegram when value is below threshold	nothing off on
It defines whether the device will send telegrams on the bus when the value is below “threshold - hysteresis”.	