Overview changes

AD103C vs. AD101B

Content

1   Changes in commands

This document describes in short the changes of the commands and their extensions in comparison to the firmware of the 2nd generation (AD101B). Please refer to the online help file AED_Help_e.chm for detailed command descriptions.

The AD103C amplifier belong to the 3rd generation of amplifiers from HBM.

The changes have been realized in such a way that in case of delivery ex factory the behaviour is identical to the predecessors of the 2nd generation.

Com-mand	Meaning	AD101B parameter	AD103C parameter
ADR	Address	0...31	0...89
ASF	Filter	0...8 (FMD0)	0...10 (FMD0/1)
COF	Output format meas. values		New: ASCII−output COF13 and COF15
CSM	status / checksum	0,1	0,1,2 (2 = extended status)
ENU	Unit of measurement	Not password protected	Password protected and relevant to legal−for−trade capability
FMD	Filter mode	0/1	0…4, Expanded with new filter characteristics
GRU	Group command		Function is no longer supported
IDN	Identification	Not password protected	Relevant to legal−for−trade capability, serial number cannot be changed
LIC	Linearisation	Of the sensor characteristic	Of the scale characteristic, Password protected and relevant to legal−for−trade capability
LIV	Limit values	2	4 limit values, input: peak values also
MTD	Standstill monitoring	Not password protected	Password protected and relevant to legal−for−trade capability
TRC	Trigger settings		Expanded functions
ZSE	Zero on start−up	Not password protected	Password protected and relevant to legal−for−trade capability
ZTR	Automatic zero tracking	Not password protected	Password protected and relevant to legal−for−trade capability

AD103C:

The **ACL**, **CAL, COR** commands are no longer necessary but they are still implemented (without any function).

The allocation of password protected commands has been changed (see above table).

The command **GRU** is not longer supported, because of the change of the address range (**ADR**)

2 Important for legal for trade capability

The allocation of the commands relevant to the legal for trade capability has been expanded (see overview tables in the help file).

A change of the parameters that are relevant to the legal−for−trade capability is only possible, if the verification switch **LFT** is set to zero.

The amplifier AD103C has a hardware switch to protect the legal for trade switch **LFT**.

3 New general commands of the AD103C

Command	Meaning	Comment
AOV?	ADU Overflow	Counter request
SOV?	Sensor Overflow	Counter request
CDL	Zeroing	Range: +/− 2% of NOV
DPT	Decimal point	Number of decimal places for COF13 and 15
MRA	Multi range switchpoint	For dual range scale
HSM	High speed mode	Duplication of the ADU sampling rate
NTF	two Notchfilter	For filter mode FMD 2,3,4

4 New commands for the trigger function (AD103C)

Command	Meaning	Comment
CTR;	Delete trigger results	TRM, TRN, TRS
DZT	Dynamical zero tracking	Password protected and relevant to legal−for−trade capability
TRF	Trigger correction factor	Dynamic correction factor for trigger results, Password protected and relevant to legal−for−trade capability
TRM?	Average value trigger results	
TRN?	Number of trigger results	
TRS?	Trigger results standard deviation	
TRC	Trigger adjustment	Expanded with post−trigger functions

5   Diagnosis functions of the AD103C

To support analysis of dynamic processes, a diagnostics channel has been set up which can be accessed either through a main communication channel or a separate bus. The diagnostics channel enables up to 512 measured values and status information to be stored. Different trigger conditions can be adjusted (see <u>Diagnostics functions</u> in the help file AED_Help_e).

6   Overview of changes and extensions

Properties	AD101B	AD103C	Command
Hardware			
ADC sample rate	600 val./sec.	600 and 1200 val./sec.	**HSM**
<u>Diagnosis channel</u>	–	up to 512 measured values	
<u>CANOpen</u>	–	On board	
<u>DeviceNet</u>	–	On board	
Monitoring	–	Sensor–Over–/Underflow,	**SOV,**
		ADC–Over–/Underflow,	**AOV,**
		Display range (OIML/NTEP)	**LFT,**
		Bridge excitation voltage,	**ROI**
		Output current OUT1…OUT4	
User characteristic			
Linearisation	Sensor charact.	Scale characteristic	**LIC**
Decimal point	–	For new output format **COF**13 and COF15 (ASCII)	**DPT**
Multirange	–	2–range–scale	**MRA**
Digitalfilter			
Filtermode	0/1	extended with 3 modes	**FMD**
Notchfilter	–	two additional notch filter	**NTF**
Output measured value			
Status	standard	standard / extended	**CSM, MSV**

Properties	AD101B	AD103C	Command
Signal conditioning			
Limit switches	2	4, also monitoring MIN/MAX	**LIV**
Extremal values (MIN/MAX)	Gross / Net	Gross/Net/Trigger result	**PVS**
Trigger function			
Setup	Pre–Trigger	Pre– and Post–Trigger	**TRC**
Results	only MAV	also number, mean value standard deviation	**TRN,TRM,TRS**
Automatic Zero Tracking	only for static measurement	also for dynamic measurement	**DZT**
Correction factor	–	+/–1% for trigger result	**TRF**

measurement with confidence