

Electric Drives
and Controls

Hydraulics

Linear Motion and
Assembly Technologies

Pneumatics

Service

Rexroth
Bosch Group

VT-HACD-DPQ Digital Controller for Injection Molding Machines

RE 30146-02-Z/11.06

Start-up CANopen Interface



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1 Introduction

1.1 Version

Version: 1.4

1.2 General

The program BODAC can be used for creating tables, in which the user can define, which data are to be cyclically exchanged via a bus system between the amplifier card and a master:

This process will also be called Mapping in the following and can be used for all bus systems of the DPQ (Profibus-DP, CANopen and DeviceNet).

These instructions only describe the installation and operation of the controller card in conjunction with a bus system. For additional information on commissioning the controller card with help of the software BODAC, which is included in the scope of supply, see "Starting up the DPQ Controller Card and Operation of the BODAC Software". A list of documentation for the DPQ can be found in the section "Associated Documentation".

Associated documentation

Apart from the present instructions, we offer further documentation with regard to the "DPQ digital control electronics for electromechanical and electrohydraulic drives".

These include:

- RE data sheet "RE 30 146" in paper form.
- The documentation RE 30 146-B. "Installation and Operation of the DPQ Controller Card".
- The documentation RE 30 146-01-B. "Start-up and Operation".
- The documentation RE 30 146-02-Z: "Start-up CANopen Interface"
- The documentation RE 30 146-U: "Declaration on environmental compatibility in the field of EMC, climate and mechanical stress"
- On the Internet: <http://www.boschrexroth.com/hacd>
- Further information about CANopen can be obtained from the association CAN-in-Automation (CiA, <http://www.can-cia.org>).

Introduction

1.3 Signs and symbols used

The following signs and symbols are used in the present instructions:

- Action symbol: The text following this symbol describes activities. These must be carried out in the given order.
- ✓ Result symbol: The text following this symbol describes the results of an action.



Following this symbol you will find notes and useful tips for the optimal use of the controller card.



After this symbol you will find references to additional documentation.

Warning signs

Special safety notes are provided at the relevant locations. These are indicated by the following symbols.



General hazard This sign is placed in front of activities which represent a potential hazard to persons and/or extensive damage to equipment.

1.4 Safety notes

Operate the controller card only when it is in technically perfect condition and in accordance with the intended use, being aware of safety and risks and observing the present documentation!

In the event of faults that affect safety or in the case of changes in the operating behavior, shut the controller card down immediately and inform the responsible personnel.

The proper and safe operation of the controller card implies proper transport, correct storage, and installation as well as thorough commissioning and operation.

The controller card has been built using the latest technology, and in accordance with recognized safety standards. Nevertheless, its use can result in personal injury and damage to property, when:

- the controller card is not used according to the intended purpose (see page 10, proper use)
- the controller card is not installed, commissioned and operated by specialist personnel.
- you modify or convert the controller card improperly.
- you do not observe the safety regulations and safety notes.

The controller card is intended for use in industrial applications.

The card must not be operated until it has been determined that the system in which the controller card is installed, meets all applicable standards and safety regulations for the application.

In European countries: EC Directive 89/392/EEC (Machinery Directive)

Operation is permitted only when applicable EMC regulations for the application are met.

Adherence to limits defined by national regulations and standards is the responsibility of the manufacturer of the system or machine.

In European countries: EC Directive 89/336/EEC (EMC Directive)

In the USA: National Electrical Code (NEC) and National Electrical Manufacturers Association (NEMA), as well as local standards should be observed. The operator must comply at any time with the points mentioned before.

2 Connection technique, installation notes

2.1 Pin assignment (terminating resistors, cable type)

The connections for the CAN bus are provided at the rear edge connector on the controller card. The edge connector is a 64-pin, type G (DIN 41612) connector.

Row f:

Pin	Description	Type	Specification
28	CAN_GND	CAN bus reference	CAN specification
30	CAN_L	CAN bus input/output	CAN specification
32	CAN_H	CAN bus input/output	CAN specification

CAN is based on a line-shaped network topology.

For wiring, you should use a shielded twisted-pair cable (according to ISO 11898).

To prevent ground loops, the shield must be connected over the entire cable length and brought into contact on one end. For bus lengths greater than 1 km, the use of repeaters may be required.



The bus must be provided with a terminating resistor of 120 Ω at both ends (between CAN_L and CAN_H). This prevents reflections and is also required for short cable lengths.

In particularly problematic environments, we recommend the use of higher-quality cables such as a shielded Lapp cable UNITRONIC BUS FD P CAN UL/CSA 2x2x0.25.

2.2 Supported baud rate and node ID

The address can be programmed by way of an SDO or be set via the Bus Manager of the operator program "BODAC".

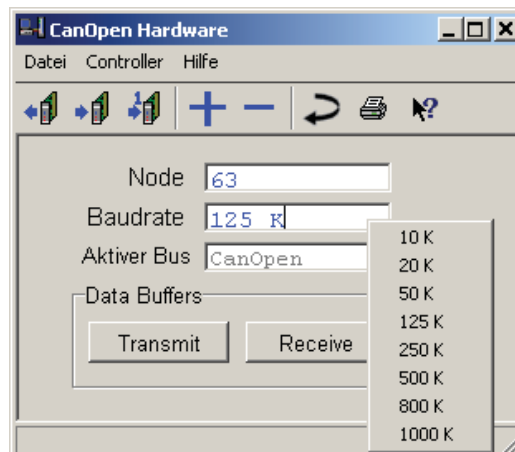


Fig. 1 Bus Manager window "CanOpen Hardware"

Up to 127 stations (nodes) are possible. Station 0 is reserved for Broadcast messages.

The baud rate can also be set here.



With the factory-setting, the node number is pre-assigned to 63 .

CanOpen services

3 CanOpen services

The following features were implemented:

- Support of CANopen standard DS301, version 4
- One SDO (Service Data Object)
- Four receive PDOs (mapping via BODAC Bus Manager), CYCL
- Four transmit PDOs (mapping via BODAC Bus Manager), CYCL
- Node-guarding
- Heartbeat
- Life-guarding
- Emergency object
- CANopen slave
- NODE-ID setting via SDO or via BODAC Bus Manager
- Minimum boot-up
- The use in CAL networks is not possible
- Identifier assignment according to the Predefined Connection Set



In conjunction with CANopen, in the case of 2-byte or 4-byte variables, the LSB (= least significant byte = byte 0) is always sent first (Intel format)



All of the data are saved in the volatile memory (RAM) of the card. In the event of, for example, a power failure the set data are lost.

3.1 Network management

The network management describes the status of communication between the master and the slaves and additionally internal operational states of the amplifier card (fault states, waiting for enable, ...).

Bootup protocol

After the supply voltage was switched on, the amplifier card outputs the following message:

COB-ID	DLC	Byte 0
0x700 + node number of the amplifier card addressed	1	0



The message needs not to be acknowledged by the master.

Writing with NMT1 to NMT9

After power-on or a reset, the amplifier card is in the pre-operational state. In this state, only NMT services, node-guarding and service data objects (SDOs) are available for communication and for configuring the amplifier card.

By sending a telegram, the master can set a certain amplifier card or all amplifier cards together to the operational state (ready). Only then can process data objects (PDOs) be transmitted.

By means of an NMT service, the station can also be reset to the pre-operational state and a software reset or a CAN controller reset can be carried out.

COB-ID	Byte 0	Byte 1
0x000 (NMT)	Command 0xYY	Node address 0xZZ

CanOpen services

Command for a change of state

Command 0xYY:	Byte 0
0x01	Changes over to the operational state
0x80	Changes over to the pre-operational state
0x81	Reset of amplifier card
0x82	CAN controller reset

Broadcast telegrams

Address 0xZZ:	
0xZZ = 0x00	Message sent to all stations
0xZZ ≠ 0x00	Message sent to nodes with address 0xZZ

Node-guarding

If Node-guarding is to be used, the NMT master must cyclically send a guarding telegram (RTR request) to the amplifier card. This requests a telegram from the relevant bus node.

COB-ID	RTR	DLC
0x700 + node number of the node to be monitored	1	1

The amplifier card replies with the following telegram:

COB-ID	DLC	Byte 0
0x700 + node number of the addressed amplifier card	1	Status byte 0xYY

The status byte indicates, in which phase the bus communication is. Bit 7 of the status byte is toggled after each telegram. If the bit is not toggled, the NMT master assumes an error in the monitored node.

The status byte can take the following values:

0x05/0x85 (toggled)	for the operational state
0x7F/0xFF (toggled)	for the pre-operational state

The Guard Time is entered with index 0x100C in the object directory, and the Life Time Factor with index 0x100D. These two entries can be read by means of an SDO access and also changed by the NMT master by means of an SDO access. The time allowed between the Node-guarding telegrams until the amplifier signals a fault is termed Life Time. It is calculated as follows:

Life Time = Guard Time x Life Time Factor

Pre-set values:

Guard Time: 0 (entry in ms)

Life Time Factor: 0

The NMT master can start the Guarding procedure directly at any time by requesting a Guarding telegram. This is also used for activating Life Guarding in the amplifier card, if the entries in object directory 0x100C and 0x100D are greater than 0.

Heartbeat

The Heartbeat is an alternative to Node-guarding. The advantage of Heartbeat is that Remote Frame Messages are not provided. Consequently, it is possible to do without the toggle bit. Due to this, the bus load is lower than with Node-guarding. The nodes independently generate a cyclic message about their current communication state. This is the so-called Heartbeat. The simultaneous utilization of both methods is not permitted. If the "Heartbeat Producer Time" (0x1017) is not equal to 0, the Heartbeat is used instead of Node-guarding.

Producer Telegram:

COB-ID	DLC	Byte 0
0x700 + node number of the amplifier card	1	Status byte 0xYY

The status byte indicates, in which phase the bus communication is. Bit 7 of the status byte is reserved.

The status byte can take the following values:

0x05 for the operational state

0x7F for the pre-operational state

The Consumer Heartbeat Time Interval is entered with index 0x1016 in the object directory, and the Producer Heartbeat Time Interval with index 0x1017. These two entries can be read by means of an SDO access and also changed by the NMT master by means of an SDO access.

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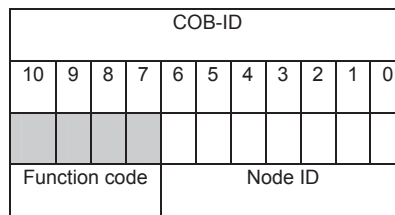
Pre-set values:

Consumer Heartbeat Time Interval: 0 (entry in ms)

Producer Heartbeat Time Interval: 0 (entry in ms)

3.2 Predefined Connection Set

For CANopen, the most important communication objects are derived according to the following scheme:



Communication objects		Function code	Resulting COB-ID	OD-Index
		bin	hex	hex
Broadcast Messages	NMT Node Control	0000	0x000	-
	Sync-Message	0001	0x080	1005,1006
	System Time	0010	0x100	1012,1013
Peer-to-Peer Messages	Emergency Objects	0001	0x081-0x0FF	1014,1015
	Tx-PDO1	0011	0x181-0x1FF	1800
	Rx-PDO1	0100	0x201-0x27F	1400
	Tx-PDO2	0101	0x281-0x2FF	1801
	Rx-PDO2	0110	0x301-0x37F	1401
	Tx-PDO3	0111	0x381-0x3FF	1802
	Rx-PDO3	1000	0x401-0x47F	1402
	Tx-PDO4	1001	0x481-0x4FF	1803
	Rx-PDO4	1010	0x501-0x57F	1403
	Tx-SDO	1011	0x581-0x5FF	1200
	Rx-SDO	1100	0x601-0x67F	1200
Node Monitoring	1110	0x701-0x77F	100C,100D 1016,1017	

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Node number 0 is reserved for Broadcast transmissions.

3.3 SDO - general description

SDOs are used to establish an acyclical communication. Addressing is made by means of index and sub-index. SDOs are transmitted with acknowledgement. In this way, every message is acknowledged by a corresponding CAN message. The individual indices can be found in chapter 5. The parameters of the amplifier card are included in the Manufacturer-Specific Area of the CANopen object directory (2000 – 5FFF).

In contrast to the SDO Segmented Domain Protocol, with the SDO Expedited Protocol, only up to 4 bytes of data can be transmitted at a time.

Client → Server Upload Request Protocol

With this telegram, the higher-level control reads values or parameters from the bus stations (e.g. amplifier cards).

Structure

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3
0x600 + node number	Control word value 0x40	Index low byte	Index high byte	Subindex

Server → Client Upload Response Protocol

The station replies with this telegram to the request of the higher-level control.

Structure

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3	Bytes 4...7
0x580 + node number	Control word value 0xYY	Index low byte	Index high byte	Subindex	Data bytes 0..3

CanOpen services

The control word can take the following values:

Values for the control word

Value 0xYY	Meaning
0x4F	1 data byte valid
0x4B	2 data bytes valid
0x47	3 data bytes valid
0x43	4 data bytes valid
0x80	→ see error codes
Other value	More than 4 data bytes required → non-expedited domain protocol required

Client → Server Download Request Protocol

The higher-level control can use this protocol for transmitting values or parameters to the stations. In the amplifier cards, the parameters are saved in the volatile RAM and are no longer available after a reset or power ON.

Structure

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3	Bytes 4...7
0x600 + node number	Control word value 0x22	Index low byte	Index high byte	Subindex	Data bytes 0..3

Server → Client Download Response Protocol

This telegram is used for confirming the write access of the control.

Structure

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3	Bytes 4...7
0x580 + node number	Control word value 0x60	Index low byte	Index high byte	Subindex	Data bytes 0..3

The contents of the data bytes are arbitrary and must be ignored by the control.

Interruption of an SDO transfer

When the integrated valve electronics recognizes an error while utilizing an SDO telegram, an SDO interruption telegram is sent.

The possible error codes are listed in the table below:

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3	Bytes 4 + 5	Byte 6	Byte 7
0x580 + node number	Control word value 0x80	Index low byte	Index high byte	Subindex	Additional code	Error code	Error class

Error code table for SDO interruption



Not all of the error messages are implemented in every software version.

Additional code		Error code	Error class	Error description
0x11	0x0	0x9	0x6	No subindex
0x0	0x0	0x1	0x6	Only reading or writing possible
0x31	0x0	0x9	0x6	Default value too great
0x32	0x0	0x9	0x6	Default value too small
0x10	0x0	0x7	0x6	Data type not known
0x12	0x0	0x7	0x6	Data length too great
0x13	0x0	0x7	0x6	Data length too short
0x41	0x0	0x4	0x6	Datum cannot be mapped
0x42	0x0	0x4	0x6	PDO too long
0x43	0x0	0x4	0x6	Invalid value
0x0	0x0	0x3	0x5	Incorrect toggle bit
0x0	0x0	0x2	0x6	Object not available
0x21	0x0	0x0	0x8	Internal error
0x22	0x0	0x0	0x8	Service error
0x1	0x0	0x4	0x5	Unknown service request
0x47	0x0	0x4	0x6	Initialization error

CanOpen services

Parameter conversion

The data are transmitted in the internal data format of the amplifier card. For this reason, all data transmitted to and from the amplifier must be converted on the PLC side. For the conversion, 2 values (scale and offset) are required for each parameter. These can be different for each parameter and can be found in the table.

The calculation rule for the conversion of the numerical format is as follows:

PLC -> amplifier card:
 $(EU_value - offset) * scale = internal_transmission\ value$

Amplifier card -> PLC
 $(internal_transmission\ value / scale) + offset = EU_value$

EU value = engineering unit

internal_transmission value = internal numerical format of the amplifier card

If you wish to transmit, for example, Injection Pressure Limit 1 to the DPQ, you can take the following values from the table:

Name		Inj. P Limit 1	
Index		0x2023	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

$(4.0 - 0) * 327.67 = 1310.68$ (decimal)

This value is then arithmetically rounded (= 1311) and converted into a hexadecimal value (= 0x051F). The value can now be transmitted.



The PLC must also check the entries for compliance with limits (min/max values).



If the values fall below the lower or exceed the upper limits, incorrect values may be obtained on the amplifier card (among others, negative instead of positive value due to overflows).

3.4 PDO - general description

For the transmission of process data, PDOs are available in CANopen. A PDO can be used for transmitting a maximum of 8 bytes of user data. PDOs are cyclically transmitted. The parameters are mapped in the Bus Manager of BODAC.

PDOs are generally not acknowledged in contrast to SDOs and some NMT services. They can be sent and received by several stations – depending on their configuration.

The identifiers are assigned for all amplifier cards according to the Predefined Connection Set of the CANopen protocol. For communication with the amplifier card, four send and four receive PDOs are available (from the amplifier card's point of view). After power on, the PDOs are initialized according to the [Predefined Connection Set](#).



At present, only cyclical, synchronous PDO transmission is supported. This means that the transmission of a PDO is controlled by an adjustable timer (event timer).

Send PDO (TX-PDO)

PDO structure

COB-ID	Data (bytes 0 to 7)
--------	------------------------

As usual with CANopen, first the LSB and then the MSB is transmitted for data.

Receive PDO (RX-PDO)

PDO structure

COB-ID	Data (bytes 0 and 7)
--------	-------------------------

As usual with CANopen, first the LSB and then the MSB is transmitted for data.

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Example of a PDO configuration

The parameters to be transmitted must be configured on the DPQ. This can be explained with the help of an example.

The following parameters are to be transferred:

Transmission to the DPQ:

4 bytes Inj. Position 2
4 bytes Inj. Position 3

2 bytes Inj. Velocity 1
2 bytes Inj. Velocity 2
2 bytes Inj. Velocity 3
2 bytes Inj. Velocity 4

4 bytes Holding: Time 3
4 bytes Transfer Position

4 bytes Shot Size Position

Transmission from the DPQ:

4 bytes Position FB
4 bytes Pressure FB

4 bytes Valve Output 1
2 bytes Program Block
2 bytes Status

2 bytes Discrete Outputs

The parameters are saved in memory areas for send and receive data (of 32 bytes each) in the Bus Manager of the DPQ in the order, in which they have to be transmitted.

Definition of data from the DPQ:

The following table contains all parameters that can be transmitted from the VT-HACD-DPQ to the master. 2-byte or 4-byte values can be selected. The configuration shown here refers to our example:

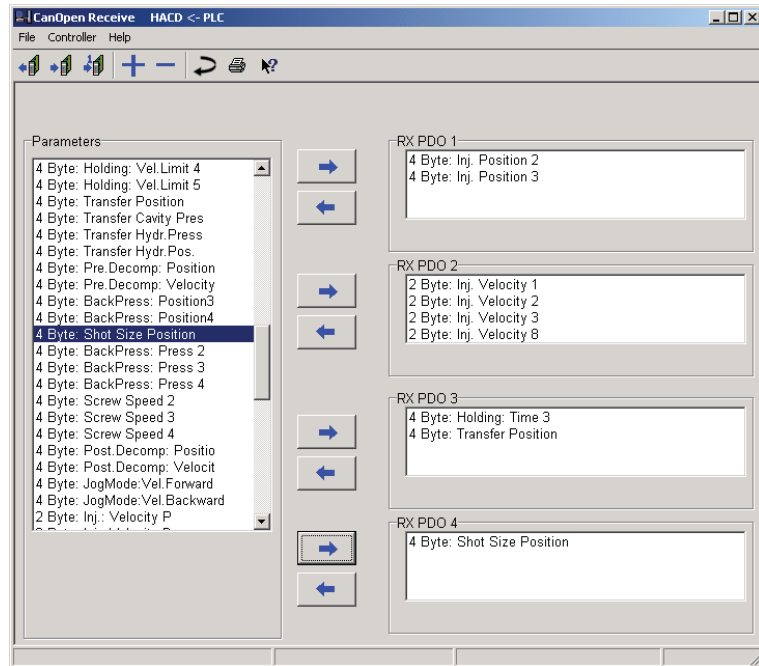


Fig. 2 Bus Manager window "Receive"

Definition of data from the DPQ

The data to be received by the DPQ must also be entered in the Bus Manager. Again, the graphic shows the configuration for our example:

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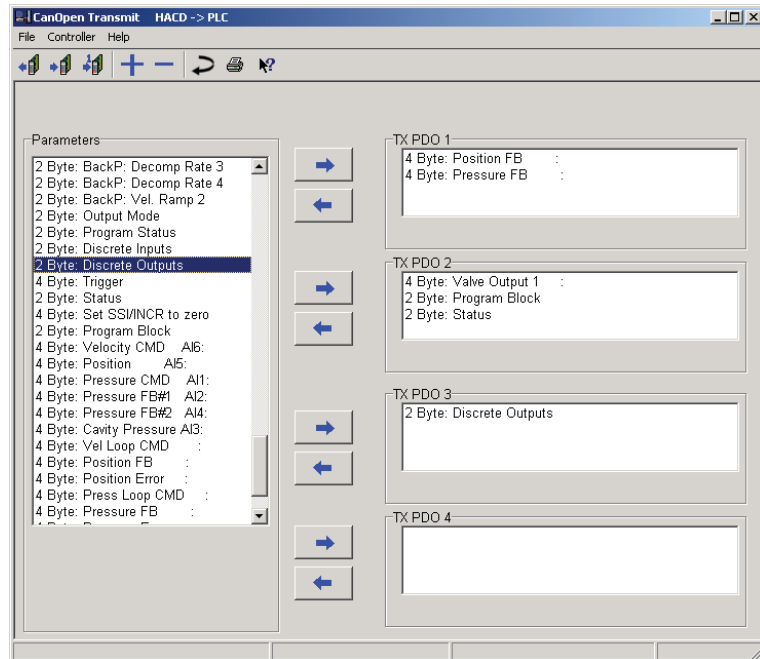


Fig. 3 Bus Manager window "Transmit"



After the mapping parameters were selected, the data must be permanently saved on the DPQ (Flash memory).

Parameter conversion

The data are transmitted in the internal data format of the amplifier card. For this reason, all data transmitted to and from the amplifier must be converted on the PLC side. For the conversion, 2 values (scale and offset) are required for each parameter. These can be different for each parameter and can be found in the table.

The calculation rule of for the conversion of the numerical format is as follows:

PLC -> amplifier card:
 $(EU_value - offset) * scale = internal_transmission\ value$

Amplifier card -> PLC
 $(internal_transmission\ value / scale) + offset = EU_value$

EU value = engineering unit

internal_transmission value = internal numerical format of the amplifier card

If you wish to transmit, for example, command value Injection Pressure Limit 1 to the DPQ, you can take the following values from the table:

Name		Inj. P Limit 1	
Index		0x2023	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

$$(4.0 - 0) * 327,67 = 1310,68 \text{ (decimal)}$$

This value is then arithmetically rounded (= 1311) and converted into a hexadecimal value (= 0x051F). The value can now be transmitted.



The PLC must also check the entries for compliance with limits (min/max values).



If the values fall below the lower or exceed the upper limits, incorrect values may be obtained on the amplifier card (among others, negative instead of positive value due to overflows).

Starting the PDO transmission

To start the transmission of PDOs, the Event Timers must be set according to the PDOs.

As an example, the 1st Transmit PDO is to send data every 100 ms, with the node number being 5. To this end, the value of 0x64 must be written to index 0x1800 subindex 0x05.

Message to node 5 to set the Event Timer to 100 ms (= 0x64 as data bytes):

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3	Bytes 4...7
0x600 + node no.	Control word value	Index low byte	Index high byte	Subindex	Data bytes 0..3
0x605	0x2B	0x00	0x18	0x05	0x64 00 00 00

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Automatic reply by node 5:

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3	Bytes 4...7
0x580 + node no. 0x585	Control word value 0x60	Index low byte 0x00	Index high byte 0x18	Subindex 0x05	Data bytes 0..3 0x00 00 00 00

Message to node 5 for verification of the content:

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3	Bytes 4...7
0x600 + node no. x605	Control word value 0x42	Index low byte 0x00	Index high byte 0x18	Subindex 0x05	Data bytes 0..3 0x00 00 00 00

Automatic reply by node 5 with the correct value:

COB-ID	Byte 0	Byte 1	Byte 2	Byte 3	Bytes 4...7
0x580 + node no. 0x585	Control word value 0x4B	Index low byte 0x00	Index high byte 0x18	Subindex 0x05	Data bytes 0..3 0x64 00

Now, the amplifier must be set to the OPERATIONAL state in order that the PDO can be started:

COB-ID	Byte 0	Byte 1
0x000 (NMT)	Command 0x01	Node address 0x05

Start of PDO transmission every 100 ms:

COB-ID	Data (bytes 0 and 7)
0x185	0x00 0x12 0x23 0x11 (data from the example)

3.5 Emergency telegram

COB-ID	Byte 0...1	Byte 2	Byte 3...7
0x80 + node number	Error code	Error register	Manufacturer-specific error register (not yet used at present)

If a serious error occurs, the amplifier card sends an Emergency telegram of a data length of 8 data bytes. This telegram is sent with highest priority. When a new error is recognized, a telegram is triggered, which is specifically provided for this purpose. Any existing errors are not signaled repeatedly.

When all errors were rectified, a "no-error telegram" is sent.

Error register

As long as an error is present, the contents of error register 0x1001 can be read in the object directory. The error registers of all Emergency Telegrams are grouped in an error register content (OR operation).

Structure

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Manufacturer-specific error	Res.	Error in device profile	Communication error	Temperature error	Voltage error	Current error	General error

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Error code

Every error that can occur in the amplifier and is signaled via the CAN bus has its own error code. The number of the errors currently present is saved in the object directory under index 1003 and subindex 0. From subindex 1 + (number of errors) on, the error code of the errors occurred can be read in the time-related order of their occurrence. The error that occurred last is assigned to subindex 1. A maximum of 4 errors are saved.

The following table shows the error codes (not all of the codes are implemented in every software). They are represented in hex figures.

fault	Meaning
0000	No error
1000	General error
3400	Cable break, current inputs
3422	Control voltage Undervoltage
5230	Sensors in general
5235	External sensor
5236	Position sensor
6000	Software
6010	Software reset (watchdog)
6100	Internal software
6200	User software
6300	Data set
6310	Parameter lost / overwritten
6320	Parameter error
8100	Communication error
8300	Closed loop governor monitoring
8301	Position monitor error
8302	Pressure monitor error

4 Busparameter

4.1 Analog Vel Max

Name		Analog Vel Max	
Index		0x2C69	
Bytes	Units	4	mm/s
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.2 BackP: Decomp Rate 2

Name		BackP: Decomp Rate 2	
Index		0x219C	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.3 BackP: Decomp Rate 3

Name		BackP: Decomp Rate 3	
Index		0x219D	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

Busparameter

4.4 BackP: Decomp Rate 4

Name		BackP: Decomp Rate 4	
Index		0x21A0	
Bytes	Units	2	bar/sec
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.5 BackP: Press D 2

Name		BackP: Press D 2	
Index		0x2736	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	640
Scale	Offset	1	0

4.6 BackP: Press D 3

Name		BackP: Press D 3	
Index		0x2737	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	640
Scale	Offset	1	0

4.7 BackP: Press D 4

Name		BackP: Press D 4	
Index		0x273A	
Bytes	Units	2	Hz
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	640
Scale	Offset	1	0

4.8 BackP: Press I 2

Name		BackP: Press I 2	
Index		0x2436	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	30000
Scale	Offset	1	0

4.9 BackP: Press I 3

Name		BackP: Press I 3	
Index		0x2437	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	30000
Scale	Offset	1	0

Busparameter

4.10 BackP: Press I 4

Name		BackP: Press I 4	
Index		0x243A	
Bytes	Units	2	ms
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	30000
Scale	Offset	1	0

4.11 BackP: Press P 2

Name		BackP: Press P 2	
Index		0x2336	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	99,99
Scale	Offset	128	0

4.12 BackP: Press P 3

Name		BackP: Press P 3	
Index		0x2337	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	99,99
Scale	Offset	128	0

4.13 BackP: Press P 4

Name		BackP: Press P 4	
Index		0x233A	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	99,99
Scale	Offset	128	0

4.14 BackP: Press Rate 2

Name		BackP: Press Rate 2	
Index		0x2136	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.15 BackP: Press Rate 3

Name		BackP: Press Rate 3	
Index		0x2137	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

Busparameter

4.16 BackP: Press Rate 4

Name		BackP: Press Rate 4	
Index		0x213A	
Bytes	Units	2	bar/sec
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.17 BackP: Vel. Ramp 2

Name		BackP: Vel. Ramp 2	
Index		0x2114	
Bytes	Units	2	%/sec
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.18 BackPress: Position3

Name		BackPress: Position3	
Index		0x2A14	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.19 BackPress: Position4

Name		BackPress: Position4	
Index		0x2A15	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.20 BackPress: Press 2

Name		BackPress: Press 2	
Index		0x2036	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.21 BackPress: Press 3

Name		BackPress: Press 3	
Index		0x2037	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

Busparameter

4.22 BackPress: Press 4

Name		BackPress: Press 4	
Index		0x203A	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.23 Cavity Press Max

Name		Cavity Press Max	
Index		0x2D7E	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	1	0

4.24 Cavity Press Max Fau

Name		Cavity Press Max Fau	
Index		0x2D94	
Bytes	Units	2	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.25 Cavity Press Max Uni

Name		Cavity Press Max Uni	
Index		0x2D9F	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.26 Cavity Press Min

Name		Cavity Press Min	
Index		0x2D73	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	16383,5	0

4.27 Cavity Press Min Fau

Name		Cavity Press Min Fau	
Index		0x2D89	
Bytes	Units	2	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

Busparameter

4.28 Cavity Pressure AI3:

Name		Cavity Pressure AI3:	
Index		0x2F19	
Bytes	Units	4	[bar]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	2000
Scale	Offset	327,67	0

4.29 Cyl Pos CMD Max Uni

Name		Cyl Pos CMD Max Uni	
Index		0x2DA1	
Bytes	Units	4	mm
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.30 Cyl Pos FB Max

Name		Cyl Pos FB Max	
Index		0x2D80	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	1	0

4.31 Cyl Pos FB Max Fau

Name		Cyl Pos FB Max Fau	
Index		0x2D96	
Bytes	Units	2	mm
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.32 Cyl Pos FB Min

Name		Cyl Pos FB Min	
Index		0x2D75	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	16383,5	0

4.33 Cyl Pos FB Min Fau

Name		Cyl Pos FB Min Fau	
Index		0x2D8B	
Bytes	Units	2	mm
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

Busparameter

4.34 Cyl. Area Ratio

Name		Cyl. Area Ratio	
Index		0x3116	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-31,9	31,9
Scale	Offset	1024,01	0

4.35 Decompres.: Limit-

Name		Decompres.: Limit-	
Index		0x2FA5	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.36 Decompres.: Limit+

Name		Decompres.: Limit+	
Index		0x2FA6	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.37 Decompres.: Offset

Name		Decompres.: Offset	
Index		0x2FA3	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.38 Decompres.: Scale

Name		Decompres.: Scale	
Index		0x2FA4	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-99,9	99,9
Scale	Offset	128	0

4.39 Discrete Inputs

Name		Discrete Inputs	
Index		0x2F27	
Bytes	Units	2	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.40 Discrete Outputs

Name		Discrete Outputs	
Index		0x2F26	
Bytes	Units	2	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.41 DO7: At Press Delay

Name		DO7: At Press Delay	
Index		0x2D17	
Bytes	Units	2	sec
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	60
Scale	Offset	500	0

4.42 DO7: At Press Level

Name		DO7: At Press Level	
Index		0x2D0F	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.43 FWD: BackPress 1

Name		FWD: BackPress 1	
Index		0x2936	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	1
Scale	Offset	128	0

4.44 FWD: BackPress 2

Name		FWD: BackPress 2	
Index		0x2937	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	1
Scale	Offset	128	0

4.45 FWD: BackPress 3

Name		FWD: BackPress 3	
Index		0x293A	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	1
Scale	Offset	128	0

Busparameter

4.46 FWD: Inject

Name		FWD: Inject	
Index		0x2923	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	1
Scale	Offset	128	0

4.47 Hist. Pos. FB 13

Name		Hist. Pos. FB 13	
Index		0x360D	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.48 Hist. Pos.FB 1

Name		Hist. Pos.FB 1	
Index		0x3601	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.49 Hist. Pos.FB 14

Name		Hist. Pos.FB 14	
Index		0x360E	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.50 Hist. Pos.FB 15

Name		Hist. Pos.FB 15	
Index		0x360F	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.51 Hist. Pos.FB 16

Name		Hist. Pos.FB 16	
Index		0x3610	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.52 Hist. Pos.FB 17

Name		Hist. Pos.FB 17	
Index		0x3611	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.53 Hist. Pos.FB 18

Name		Hist. Pos.FB 18	
Index		0x3617	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.54 Hist. Pos.FB 2

Name		Hist. Pos.FB 2	
Index		0x3602	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.55 Hist. Pos.FB 26

Name		Hist. Pos.FB 26	
Index		0x361A	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.56 Hist. Pos.FB 27

Name		Hist. Pos.FB 27	
Index		0x361B	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.57 Hist. Pos.FB 28

Name		Hist. Pos.FB 28	
Index		0x361C	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.58 Hist. Pos.FB 29

Name		Hist. Pos.FB 29	
Index		0x361D	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.59 Hist. Pos.FB 3

Name		Hist. Pos.FB 3	
Index		0x3603	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.60 Hist. Pos.FB 30

Name		Hist. Pos.FB 30	
Index		0x361E	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.61 Hist. Pos.FB 4

Name		Hist. Pos.FB 4	
Index		0x3604	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.62 Hist. Pos.FB 5

Name		Hist. Pos.FB 5	
Index		0x3605	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.63 Hist. Pos.FB 6

Name		Hist. Pos.FB 6	
Index		0x3606	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.64 Hist. Pres CMD 13

Name		Hist. Pres CMD 13	
Index		0x3571	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.65 Hist. Pres.FB 13

Name		Hist. Pres.FB 13	
Index		0x362E	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.66 Hist. Time 1

Name		Hist. Time 1	
Index		0x3501	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.67 Hist. Time 13

Name		Hist. Time 13	
Index		0x350E	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.68 Hist. Time 14

Name		Hist. Time 14	
Index		0x350F	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.69 Hist. Time 15

Name		Hist. Time 15	
Index		0x3510	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

Busparameter

4.70 Hist. Time 16

Name		Hist. Time 16	
Index		0x3511	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.71 Hist. Time 17

Name		Hist. Time 17	
Index		0x3512	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.72 Hist. Time 23

Name		Hist. Time 23	
Index		0x3518	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.73 Hist. Time 26

Name		Hist. Time 26	
Index		0x351B	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.74 Hist. Time 27

Name		Hist. Time 27	
Index		0x351C	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.75 Hist. Time 28

Name		Hist. Time 28	
Index		0x351D	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

Busparameter

4.76 Hist. Time 29

Name		Hist. Time 29	
Index		0x351E	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.77 Hist. Time 3

Name		Hist. Time 3	
Index		0x3503	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.78 Hist. Time 30

Name		Hist. Time 30	
Index		0x351F	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.79 Hist. Time 4

Name		Hist. Time 4	
Index		0x3504	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.80 Hist. Time 5

Name		Hist. Time 5	
Index		0x3505	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

4.81 Hist. Time 6

Name		Hist. Time 6	
Index		0x3506	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	500	0

Busparameter

4.82 Holding: Pressure 1

Name		Holding: Pressure 1	
Index		0x202F	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.83 Holding: Pressure 2

Name		Holding: Pressure 2	
Index		0x2030	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.84 Holding: Pressure 3

Name		Holding: Pressure 3	
Index		0x2031	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.85 Holding: Pressure 4

Name		Holding: Pressure 4	
Index		0x2032	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.86 Holding: Pressure 5

Name		Holding: Pressure 5	
Index		0x2033	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.87 Holding: Time 1

Name		Holding: Time 1	
Index		0x2B2F	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	999,99
Scale	Offset	500	0

Busparameter

4.88 Holding: Time 2

Name		Holding: Time 2	
Index		0x2B30	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	999,99
Scale	Offset	500	0

4.89 Holding: Time 3

Name		Holding: Time 3	
Index		0x2B31	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	999,99
Scale	Offset	500	0

4.90 Holding: Time 4

Name		Holding: Time 4	
Index		0x2B32	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	999,99
Scale	Offset	500	0

4.91 Holding: Time 5

Name		Holding: Time 5	
Index		0x2B33	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	999,99
Scale	Offset	500	0

4.92 Holding: Vel.Limit 1

Name		Holding: Vel.Limit 1	
Index		0x200D	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	100
Scale	Offset	327,67	0

4.93 Holding: Vel.Limit 2

Name		Holding: Vel.Limit 2	
Index		0x200E	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.94 Holding: Vel.Limit 3

Name		Holding: Vel.Limit 3	
Index		0x200F	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.95 Holding: Vel.Limit 4

Name		Holding: Vel.Limit 4	
Index		0x2010	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.96 Holding: Vel.Limit 5

Name		Holding: Vel.Limit 5	
Index		0x2011	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.97 INCR: Home Offset

Name		INCR: Home Offset	
Index		0x2DCB	
Bytes	Units	4	mm
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.98 INCR: Resolution

Name		INCR: Resolution	
Index		0x2DCC	
Bytes	Units	2	count/mm
Access		Read/Write	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		0	32767
Scale	Offset	1	0

4.99 Inj. Accel.Ramp

Name		Inj. Accel.Ramp	
Index		0x2201	
Bytes	Units	2	[s]
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	65
Scale	Offset	500	0

Busparameter

4.100 Inj. P Limit 1

Name		Inj. P Limit 1	
Index		0x2023	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.101 Inj. P Limit 10

Name		Inj. P Limit 10	
Index		0x2040	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.102 Inj. P Limit 2

Name		Inj. P Limit 2	
Index		0x2025	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.103 Inj. P Limit 3

Name		Inj. P Limit 3	
Index		0x2026	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.104 Inj. P Limit 4

Name		Inj. P Limit 4	
Index		0x2027	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.105 Inj. P Limit 5

Name		Inj. P Limit 5	
Index		0x2028	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

Busparameter

4.106 Inj. P Limit 6

Name		Inj. P Limit 6	
Index		0x203C	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.107 Inj. P Limit 7

Name		Inj. P Limit 7	
Index		0x203D	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.108 Inj. P Limit 8

Name		Inj. P Limit 8	
Index		0x203E	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.109 Inj. P Limit 9

Name		Inj. P Limit 9	
Index		0x203F	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.110 Inj. Position 10

Name		Inj. Position 10	
Index		0x2A1D	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

4.111 Inj. Position 2

Name		Inj. Position 2	
Index		0x2A01	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

Busparameter

4.112 Inj. Position 3

Name		Inj. Position 3	
Index		0x2A03	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

4.113 Inj. Position 4

Name		Inj. Position 4	
Index		0x2A04	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

4.114 Inj. Position 5

Name		Inj. Position 5	
Index		0x2A05	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

4.115 Inj. Position 6

Name		Inj. Position 6	
Index		0x2A06	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

4.116 Inj. Position 7

Name		Inj. Position 7	
Index		0x2A1A	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

4.117 Inj. Position 8

Name		Inj. Position 8	
Index		0x2A1B	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

Busparameter

4.118 Inj. Position 9

Name		Inj. Position 9	
Index		0x2A1C	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	5000
Scale	Offset	327,67	0

4.119 Inj. Velocity 1

Name		Inj. Velocity 1	
Index		0x2167	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.120 Inj. Velocity 10

Name		Inj. Velocity 10	
Index		0x2184	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.121 Inj. Velocity 2

Name		Inj. Velocity 2	
Index		0x2169	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.122 Inj. Velocity 3

Name		Inj. Velocity 3	
Index		0x216A	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.123 Inj. Velocity 4

Name		Inj. Velocity 4	
Index		0x216B	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

Busparameter

4.124 Inj. Velocity 5

Name		Inj. Velocity 5	
Index		0x216C	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.125 Inj. Velocity 6

Name		Inj. Velocity 6	
Index		0x2180	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.126 Inj. Velocity 7

Name		Inj. Velocity 7	
Index		0x2181	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.127 Inj. Velocity 8

Name		Inj. Velocity 8	
Index		0x2182	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.128 Inj. Velocity 9

Name		Inj. Velocity 9	
Index		0x2183	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.129 Inj.: Vel.ActiveDamp

Name		Inj.: Vel.ActiveDamp	
Index		0x2D04	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	255,9
Scale	Offset	128	0

Busparameter

4.130 Inj.: Velocity D

Name		Inj.: Velocity D	
Index		0x2701	
Bytes	Units	2	Hz
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	640
Scale	Offset	1	0

4.131 Inj.: Velocity P

Name		Inj.: Velocity P	
Index		0x2301	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	99,99
Scale	Offset	128	0

4.132 Injection: Limit-

Name		Injection: Limit-	
Index		0x2E2D	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.133 Injection: Limit+

Name		Injection: Limit+	
Index		0x2E2A	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.134 Injection: Offset

Name		Injection: Offset	
Index		0x2F6D	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.135 Injection: Scale

Name		Injection: Scale	
Index		0x2E21	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-99,9	99,9
Scale	Offset	128	0

Busparameter

4.136 Jog Mode: Limit-

Name		Jog Mode: Limit-	
Index		0x2F81	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.137 Jog Mode: Limit+

Name		Jog Mode: Limit+	
Index		0x2F82	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.138 Jog Mode: Offset

Name		Jog Mode: Offset	
Index		0x2F7F	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.139 Jog Mode: Scale

Name		Jog Mode: Scale	
Index		0x2F80	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-99,9	99,9
Scale	Offset	128	0

4.140 JogMode:Vel.Backward

Name		JogMode:Vel.Backward	
Index		0x2013	
Bytes	Units	4	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.141 JogMode:Vel.Forward

Name		JogMode:Vel.Forward	
Index		0x2012	
Bytes	Units	4	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.142 OUT2: BackPress Lim-

Name		OUT2: BackPress Lim-	
Index		0x2F99	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	0
Scale	Offset	327,7	0

4.143 OUT2: Decomp Limit-

Name		OUT2: Decomp Limit-	
Index		0x2FAB	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	0
Scale	Offset	327,7	0

4.144 OUT2: Inject Limit-

Name		OUT2: Inject Limit-	
Index		0x2E2E	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	0
Scale	Offset	327,7	0

4.145 OUT2: Jog Limit-

Name		OUT2: Jog Limit-	
Index		0x2F87	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	0
Scale	Offset	327,7	0

4.146 Output Mode

Name		Output Mode	
Index		0x2F28	
Bytes	Units	2	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	32
Scale	Offset	327,67	0

4.147 PaH/BackPres: Limit-

Name		PaH/BackPres: Limit-	
Index		0x2F93	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

Busparameter

4.148 PaH/BackPres: Limit+

Name		PaH/BackPres: Limit+	
Index		0x2F94	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.149 PaH/BackPres: Offset

Name		PaH/BackPres: Offset	
Index		0x2F91	
Bytes	Units	2	%
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	327,7	0

4.150 PaH/BackPres: Scale

Name		PaH/BackPres: Scale	
Index		0x2F92	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-99,9	99,9
Scale	Offset	128	0

4.151 PaH: act.Damp. Freq.

Name		PaH: act.Damp. Freq.	
Index		0x2D02	
Bytes	Units	2	Hz
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	640
Scale	Offset	1	0

4.152 PaH: act.Damp. Gain

Name		PaH: act.Damp. Gain	
Index		0x2D05	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	99,99
Scale	Offset	128	0

4.153 PaH: Decomp Rate 1

Name		PaH: Decomp Rate 1	
Index		0x2195	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

Busparameter

4.154 PaH: Decomp Rate 2

Name		PaH: Decomp Rate 2	
Index		0x2196	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.155 PaH: Decomp Rate 3

Name		PaH: Decomp Rate 3	
Index		0x2197	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.156 PaH: Decomp Rate 4

Name		PaH: Decomp Rate 4	
Index		0x2198	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.157 PaH: Decomp Rate 5

Name		PaH: Decomp Rate 5	
Index		0x2199	
Bytes	Units	2	bar/sec
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.158 PaH: Press Rate 2

Name		PaH: Press Rate 2	
Index		0x2130	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.159 PaH: Press Rate 3

Name		PaH: Press Rate 3	
Index		0x2131	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

Busparameter

4.160 PaH: Press Rate 4

Name		PaH: Press Rate 4	
Index		0x2132	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.161 PaH: Press Rate 5

Name		PaH: Press Rate 5	
Index		0x2133	
Bytes	Units	2	bar/sec
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	10,5	0

4.162 PaH: Pressure D

Name		PaH: Pressure D	
Index		0x2723	
Bytes	Units	2	Hz
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	640
Scale	Offset	1	0

4.163 PaH: Pressure I

Name		PaH: Pressure I	
Index		0x2423	
Bytes	Units	2	ms
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	30000
Scale	Offset	1	0

4.164 PaH: Pressure P

Name		PaH: Pressure P	
Index		0x2323	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	99,99
Scale	Offset	128	0

4.165 Pos Max Length

Name		Pos Max Length	
Index		0x2F72	
Bytes	Units	4	mm
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

Busparameter

4.166 Position AI5:

Name		Position AI5:	
Index		0x2F1A	
Bytes	Units	4	[mm]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	1000
Scale	Offset	327,67	0

4.167 Position Error :

Name		Position Error :	
Index		0x2F09	
Bytes	Units	4	[mm]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-1000	1000
Scale	Offset	327,67	0

4.168 Position FB :

Name		Position FB :	
Index		0x2F07	
Bytes	Units	4	[mm]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	1000
Scale	Offset	327,67	0

4.169 Post.Decomp: Positio

Name		Post.Decomp: Positio	
Index		0x2A64	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.170 Post.Decomp: Velocit

Name		Post.Decomp: Velocit	
Index		0x201F	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.171 Pre.Decomp: Position

Name		Pre.Decomp: Position	
Index		0x2A17	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

Busparameter

4.172 Pre.Decomp: Velocity

Name		Pre.Decomp: Velocity	
Index		0x2017	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.173 Pres Max Inject

Name		Pres Max Inject	
Index		0x2F78	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.174 Press CMD Max

Name		Press CMD Max	
Index		0x2D7C	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	1	0

4.175 Press CMD Max Fau

Name		Press CMD Max Fau	
Index		0x2D92	
Bytes	Units	2	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.176 Press CMD Max Uni

Name		Press CMD Max Uni	
Index		0x2D9D	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.177 Press CMD Min

Name		Press CMD Min	
Index		0x2D71	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	16383,5	0

Busparameter

4.178 Press CMD Min Fau

Name		Press CMD Min Fau	
Index		0x2D87	
Bytes	Units	2	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.179 Press FB #1 Max

Name		Press FB #1 Max	
Index		0x2D7D	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	1	0

4.180 Press FB #1 Max Fau

Name		Press FB #1 Max Fau	
Index		0x2D93	
Bytes	Units	2	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.181 Press FB #1 Max Uni

Name		Press FB #1 Max Uni	
Index		0x2D9E	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.182 Press FB #1 Min

Name		Press FB #1 Min	
Index		0x2D72	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	16383,5	0

4.183 Press FB #1 Min Fau

Name		Press FB #1 Min Fau	
Index		0x2D88	
Bytes	Units	2	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

Busparameter

4.184 Press FB #2 Max

Name		Press FB #2 Max	
Index		0x2D7F	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	1	0

4.185 Press FB #2 Max Fau

Name		Press FB #2 Max Fau	
Index		0x2D95	
Bytes	Units	2	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.186 Press FB #2 Max Uni

Name		Press FB #2 Max Uni	
Index		0x2DA0	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.187 Press FB #2 Min

Name		Press FB #2 Min	
Index		0x2D74	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	16383,5	0

4.188 Press FB #2 Min Fau

Name		Press FB #2 Min Fau	
Index		0x2D8A	
Bytes	Units	2	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.189 Press Loop CMD :

Name		Press Loop CMD :	
Index		0x2F0E	
Bytes	Units	4	[bar]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	200
Scale	Offset	327,67	0

Busparameter

4.190 Press: PostDecompres

Name		Press: PostDecompres	
Index		0x2041	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.191 Press: PreDecompress

Name		Press: PreDecompress	
Index		0x2039	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.192 Pressure CMD AI1:

Name		Pressure CMD AI1:	
Index		0x2F0B	
Bytes	Units	4	[bar]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	200
Scale	Offset	327,67	0

4.193 Pressure Error :

Name		Pressure Error :	
Index		0x2F13	
Bytes	Units	4	[bar]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-200	200
Scale	Offset	327,67	0

4.194 Pressure FB :

Name		Pressure FB :	
Index		0x2F11	
Bytes	Units	4	[bar]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	200
Scale	Offset	327,67	0

4.195 Pressure FB#1 AI2:

Name		Pressure FB#1 AI2:	
Index		0x2F0F	
Bytes	Units	4	[bar]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	200
Scale	Offset	327,67	0

Busparameter

4.196 Pressure FB#2 AI4:

Name		Pressure FB#2 AI4:	
Index		0x2F10	
Bytes	Units	4	[bar]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	200
Scale	Offset	327,67	0

4.197 Program Block

Name		Program Block	
Index		0x2F25	
Bytes	Units	2	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	32
Scale	Offset	1	1

4.198 Program Status

Name		Program Status	
Index		0x2F34	
Bytes	Units	2	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.199 Screw Speed 2

Name		Screw Speed 2	
Index		0x2014	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.200 Screw Speed 3

Name		Screw Speed 3	
Index		0x2015	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.201 Screw Speed 4

Name		Screw Speed 4	
Index		0x2018	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.202 Set SSI/INCR to zero

Name		Set SSI/INCR to zero	
Index		0x2C78	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.203 Shot Size Position

Name		Shot Size Position	
Index		0x2D0E	
Bytes	Units	4	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.204 SSI: Nb. of bits

Name		SSI: Nb. of bits	
Index		0x2DC1	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		1	25
Scale	Offset	1	0

4.205 SSI: Offset

Name		SSI: Offset	
Index		0x2DC5	
Bytes	Units	4	mm
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.206 SSI: Resolution

Name		SSI: Resolution	
Index		0x2DC4	
Bytes	Units	2	count/mm
Access		Read/Write	
Value Acceptance		only with deactivated enabling	
Busmanager		not available	
Min./Max. Value		0	32767
Scale	Offset	1	0

4.207 Status

Name		Status	
Index		0x2C68	
Bytes	Units	2	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.208 Transfer Cavity Pres

Name		Transfer Cavity Pres	
Index		0x2D3C	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.209 Transfer Hydr.Pos.

Name		Transfer Hydr.Pos.	
Index		0x2D3E	
Bytes	Units	4	mm
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.210 Transfer Hydr.Press

Name		Transfer Hydr.Press	
Index		0x2D3D	
Bytes	Units	4	bar
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.211 Transfer Position

Name		Transfer Position	
Index		0x2D3B	
Bytes	Units	4	mm
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		available	
Min./Max. Value		0	5000
Scale	Offset	327,67	0

4.212 Trigger

Name		Trigger	
Index		0x2C67	
Bytes	Units	4	
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.213 Valve Output 1 :

Name		Valve Output 1 :	
Index		0x2F1F	
Bytes	Units	4	[%]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

Busparameter

4.214 Valve Output 2 :

Name		Valve Output 2 :	
Index		0x2F20	
Bytes	Units	4	[%]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.215 Valve Output 3 :

Name		Valve Output 3 :	
Index		0x2F21	
Bytes	Units	4	[%]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

4.216 Vel Loop CMD :

Name		Vel Loop CMD :	
Index		0x2F04	
Bytes	Units	4	[mm]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		0	1000
Scale	Offset	327,67	0

4.217 Vel. CMD Max

Name		Vel. CMD Max	
Index		0x2D81	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	1	0

4.218 Vel. CMD Max Fau

Name		Vel. CMD Max Fau	
Index		0x2D97	
Bytes	Units	2	mm/s
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.219 Vel. CMD Min

Name		Vel. CMD Min	
Index		0x2D76	
Bytes	Units	2	
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-100	100
Scale	Offset	16383,5	0

Busparameter

4.220 Vel. CMD Min Fau

Name		Vel. CMD Min Fau	
Index		0x2D8C	
Bytes	Units	2	mm/s
Access		Read/Write	
Value Acceptance		also with active enabling	
Busmanager		not available	
Min./Max. Value		-150	150
Scale	Offset	163,83	0

4.221 Velocity CMD AI6:

Name		Velocity CMD AI6:	
Index		0x2F03	
Bytes	Units	4	[mm/s]
Access		Read Only	
Value Acceptance		only with deactivated enabling	
Busmanager		available	
Min./Max. Value		-100	100
Scale	Offset	327,67	0

5 Glossary of Terms

CAN	Controller Area Network
CiA	CAN in Automation Group
COB	Communication Object (CAN telegram with up to 8 data bytes)
COB-ID	Communication Object Identifier (telegram address with 11 bits)
DLC	Data Length Code (0..8 bytes)
EMCY	Emergency telegram
NMT	Network Management
PDO	Process Data Object
RTR	Remote Transmission Request
RxPDO	Receive PDO (viewed from the relevant node)
SDO	Service Data Object
TxPDO	Transmit PDO (viewed from the relevant node)

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