

HE-65 CAN-BUS

(Device-Net-Slave)

Technical Information

Please keep for further use !

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"< >" refers to keys on your computer keyboard (e.g. <RETURN>).

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Revision History

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Note:

The cover of this document shows the current revision status and the corresponding date. Since each individual page has its own revision status and date in the footer, there may be different revision statuses within the document.

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Revision	Date

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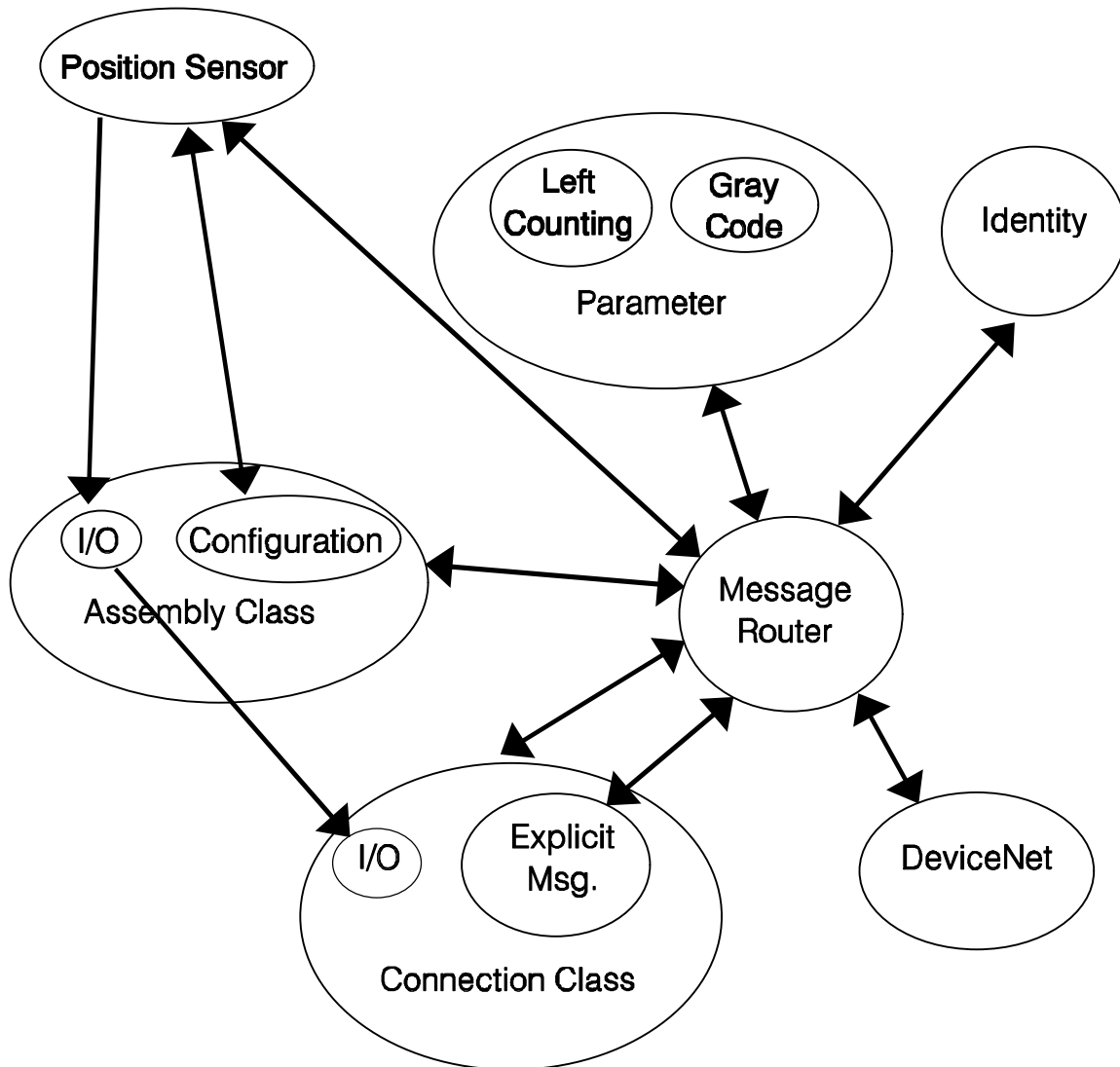
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1 Device Net Profile



Object Class	# Instances
Identity	1
Message Router	1
DeviceNet	1
Connection	2
Assembly	2
Parameter	2
Position Sensor	1

1.1 I/O Assembly Instance

Number	Name
1	Value

1.2 I/O Assembly Data Attribute Format

Instance	Byte	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
1	0 1 2 3	Value							

1.3 Mapping I/O Assembly Data Attribute Components

Data Component Name	Class		Instance Number	Attribute		DataType
	Name	Nr		Name	Nr	
Value	Position Sensor	23	1	Value	3	UDINT

1.4 Configuration Assembly Instance

Number	Name
42	Configuration

1.5 Configuration Assembly Data Attribute Format

Instance	Byte	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
42	0	Direction							
	1	Coding							

1.6 Mapping Configuration Assembly Data Attribute Components

Data Component Name	Class		Instance Number	Attribute		DataType
	Name	Nr		Name	Nr	
Direction	Position Sensor	23	1	left Counting	10	BOOL
Coding	Position Sensor	23	1	Gray-Code	11	BOOL

1.7 Parameter Object Instances

Number	Name
1	Direction
2	Coding

1.8 Mapping Parameter Object Data

Configuration Parameter Name	Class		Instance Number	Attribute		DataType
	Name	Nr		Name	Nr	
Direction	Position Sensor	23	1	left Counting	10	BOOL
Coding	Position Sensor	23	1	Gray-Code	11	BOOL

2 Technical Data

2.1 Electrical Characteristic Data

Operating voltage:	11-27 V DC
Max. current consumption:	0,5 A (no load)
Output capacity:	24-bit (25-bit optional)
Resolution:	4096 steps/rev (12-bit)
Option:.....	8192 steps/rev (13-bit)
Measuring range:	4096 revolutions (12 Bit)
* Output code:	binary (default), gray (programmable)
* Counting direction:	counting clockwise (default), counting conter clockwise (programmable)
Baud rate:	125 kbps, line length up to 500 m 250 kbps, line length up to 250 m 500 kbps, line length up to 100 m
Encoder interface:	CAN-Bus-Interface
Data transfer:	CAN-BUS-Driver (ISO/DIS 11898)
Operating temperature range:	0 to 60°C, no condensation

* Programmed values are available until the power supply is failure.

2.2 Mechanical Characteristic Data

Mechanically permissible speed:	6000 RPM
Permissible shaft loading:	40 N axial, 60 N radial (at end of shaft)
Minimum bearing lifetime:	3.9 x 10 ¹⁰ revolutions at:
Operating speed:	3000 RPM
Shaft loading:	20 N axial, 30 N radial (at end of shaft)
Operating temperature:.....	60° C
Max. angular acceleration:	≤ 10 ⁴ rad/s ²
Moment of inertia:	2.5 x 10 ⁻⁶ kg m ²
Starting torque at 20° C:	2 Ncm
Vibration loading (50-2000 Hz):	≤ 100 m/s ² (DIN IEC 68-2-6)
Shock loading (11 ms):	≤ 1000 m/s ² (DIN IEC 68-2-27)

3 Pin Assignments

Explanation of terms:

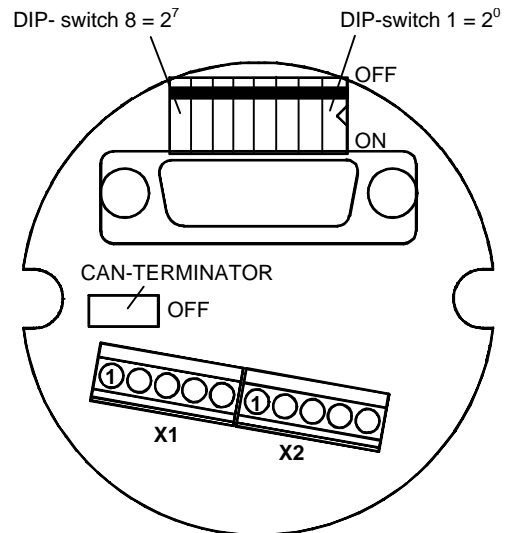
HE65: Hardware-Encoder with \varnothing 65 mm
 MINI-COMBICON: Connector Phoenix MINI-COMBICON 8A/125V, grid 3.5 mm
 US: Supply voltage, 11 - 27 V DC

X1 - MINI-COMBICON 5-pole

- Pin 1 CAN_GND
- Pin 2 CAN_H
- Pin 3 CAN_L
- Pin 4 CAN_H
- Pin 5 CAN_L

X2 - MINI-COMBICON 5-pole

- Pin 1 CAN_GND
- Pin 2 NC
- Pin 3 NC
- Pin 4 0V-Ground
- Pin 5 US-Power Supply



Identifier

DIP- switch 6 = identifier 2^5	DIP- switch 5 = identifier 2^4	DIP- switch 4 = identifier 2^3	DIP- switch 3 = identifier 2^2	DIP- switch 2 = identifier 2^1	DIP- switch 1 = identifier 2^0	Encoder address = identifier
off	off	off	off	off	off	0
off	off	off	off	off	on	1
off	off	off	off	on	off	2
off	off	off	off	on	on	3
.
on	on	on	on	on	off	62
on	on	on	on	on	on	63

Baud rate

DIP-switch 8	DIP- switch 7	Baud rate
off	off	125 kbps
off	on	250 kbps
on	off	500 kbps

CAN-TERMINATOR

	TERMINATOR ON	TERMINATOR OFF
Terminating impedance	YES 123 Ω between CAN_L and CAN_H	NO

3.1 Optical indications

for this state:	LED is:	to indicate:
not powered / not on-line	off	Device is not on-line. - The device has not completed the Dup_MAC-ID test yet. - The device may not be powered.
Device operational and on-line, connected	green	The device is operating in a normal condition and the device is on-line with connections in the established state. - For a group 2 only device it means that the device is allocated to a master. - For a UCMM capable device it means that the device has one or more established connections.
Device operational and on-line, not connected or device on-line and device needs commissioning	flashing green	The device is operating in a normal condition and the device is on-line with no connections in the established state. - The device has passed the Dup-MAC-ID test, is on-line, but has no established connections to other nodes. - For a group 2 only device it means that this device is not allocated to a master. - For a UCMM capable device it means that the device has no established connections. - Configuration missing, incomplete or incorrect.
Minor fault and / or connection time-out	flashing red	Recoverable fault and / or one or more I/O-connections are in the timed-out state.
Critical fault or critical link failure	red	The device has an unrecoverable fault; may need replacing. Failed communication device. The device has detected an error that has rendered it incapable of communicating on the network (duplicate MAC-ID, or BUS-off).