

Type AirLINE8653

CANopen

Object Description

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1 Overview

Used datatypes:

Unsigned8	8 bit: unsigned integer
Unsigned16	16 bit: unsigned integer
Unsigned32	32 bit: unsigned integer
REAL32	32 bit: float value IEEE 754

2 Objects

2.1 Cyclic data

Object 0x2500 NAMUR Status

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	7	x		
0x01	NAMUR Status	Unsigned8	0	x		x

Description of the subindexes

NAMUR Status: NAMUR status of device

- 0: Diagnostics inactive
- 1: Diagnostics active
- 2: Maintenance required
- 3: Out of specification
- 4: Function check
- 5: Failure, error or fault

Object 0x2506 BM1_Feedback up

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	7	x		
0x01	BM1_Feedback up	Unsigned8	0	x		x
0x02 - 0x07	Internal settings			x		

Description of the subindexes

Value: cyclic output for current position feedback status of the upper end position

Internal settings: for internal use only

Object 0x250C BM1_Feedback Down

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	7	x		
0x01	BM1_Feedback Down	Unsigned8	0	x		x
0x02 - 0x07	Internal settings			x		

Description of the subindexes

Value: cyclic output for current position feedback status of the lower end position

Internal settings: for internal use only

Object 0x2540 BM1_Valves

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	7	x		
0x01	BM1_Valves	Unsigned8	0	x	x	x
0x02-0x07	Internal settings			x		

Description of the subindexes

Value: cyclic input for valves

Internal settings: for internal use only

Object 0x2546 BM1_ext Feedback up

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	7	x		
0x01	BM1_ext Feedback up	Unsigned8	0	x	x	x
0x02-0x07	Internal settings			x		

Description of the subindexes

Value: cyclic input for external position feedbacks of the upper end position

Internal settings: for internal use only.

Object 0x254C BM1_ext Feedback Down

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	7	x		
0x01	BM1_ext Feedback Down	Unsigned8	0	x	x	x
0x02-0x07	Internal settings			x		

Description of the subindexes

Value: cyclic input for external position feedbacks of the lower end position

Internal settings: for internal use only

2.2 Acyclic data



The standard objects are described in separate operating instruction:
www.burkert.com → Type 8652 "CANopen Network configuration"
The device specific objects are described below

Object 0x200A Power Supply alarm Values

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	5	x		
0x01	Voltage error limit high	Real32	26.4	x		
0x02	Voltage error limit low	Real32	21.6	x		
0x05	Voltage hysteresis	Real32	1.0	x		

Description of the subindexes

Voltage error limit high: Limit value supply voltage, error message when exceeded
Voltage error limit low: Limit value supply voltage, error message when undercut
Voltage hysteresis: Tolerance range upper and lower limit value supply voltage

Object 0x200B Temperature Alarm Values

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	5	x		
0x01	Temperature error limit high	Real32	363.15	x		
0x02	Temperature error limit low	Real32	258.15	x		
0x05	Temperature hysteresis	Real32	2.0	x		

Description of the subindexes

Temperature error limit high: Limit value device temperature, error message when exceeded
Temperature error limit low: Limit value device temperature, error message when undercut
Temperature hysteresis: Tolerance range upper and lower limit value device temperature

Object 0x2C02 Feedback Source

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	6	x		
0x01	Unit 1	Unsigned8	0	x	x	
0x07	Unit 1	Unsigned8	0	x	x	

Description of the subindexes

Unit 1: Source for position feedback position

0: Not used

2: external device via bÜS/CANopen, e.g. ME44 8DI

Object 0x2C0B Actual SCC Pilot Unit 1

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	8	x		
0x01 - 0x08	Valve X	Unsigned32	0	x	x	

Description of the subindexes

Valve X: current status of the switching cycle counter of each pilot valve (set to 0 after maintenance, the maintenance message is then deleted by the device)

Object 0x2C11 Actual SCC Actuator Unit 1

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	8	x		
0x01 - 0x08	Actuator X	Unsigned32	0	x	x	

Description of the subindexes

Actuator X: current status of the switching cycle counter of each actuator (set to 0 after maintenance, the maintenance message is then deleted by the device)

Object 0x2C17 SCC Limit Pilot

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	SCC limit pilot	Unsigned32	30 000 000	x		

Description of the subindexes

SCC limit pilot: Limit switching cycle counter for pilot valves

Object 0x2C18 SCC Limit Actuator Unit 1

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	8	x		
0x01 - 0x08	Actuator X	Unsigned32	30 000 000	x	x	

Description of the subindexes

Actuator X: Limit switching cycle counter for each actuator

Object 0x2C1E Last Maintenance Actuator Unit 1

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	8	x		
0x01 - 0x08	Actuator X	Unsigned32	0	x	x	

Description of the subindexes

Actuator X: Last scheduled maintenance of each actuator. Value is entered by the device as soon as 'Next Maintenance Actuator Unit 1' is once again larger than the current system period (value in seconds since 01.01.1970).

Object 0x2C24 Next Maintenance Actuator Unit 1

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	8	x		
0x01 - 0x08	Actuator X	Unsigned32	0	x	x	

Description of the subindexes

Actuator X: Next scheduled maintenance of each actuator (value in seconds since 01.01.1970).

Object 0x2C2A Channel Diagnostics Unit 1

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	8	x		
0x01-0x08	Channel X	Unsigned16	0	x		

Description of the subindexes

Channel X: Channel diagnostics (bit field)

1-3: unused

4: Short circuit of the position feedback – upper end position

5: Short circuit of the position feedback – lower end position

6: Wire break of the position feedback – upper end position

7: Wire break of the position feedback – lower end position

8: Position feedback error – upper end position

9: Position feedback error – lower end position

10: Actuator maintenance necessary

11: Pilot valve maintenance necessary

12: Scheduled maintenance necessary

13: Actuator runtime of move to upper position too long

14: Actuator runtime of move to lower position too long

Object 0x2C30 Activate SCC Pilot

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	6	x		
0x01	Unit 1	Unsigned8	0	x	x	

Description of the subindexes

Unit 1: activates/deactivates switching cycle counter for pilot valves (bit field)

Object 0x2C31 Activate SCC Actuator

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	6	x		
0x01	Unit 1	Unsigned8	0	x	x	

Description of the subindexes

Unit 1: activates/deactivates switching cycle counter for actuators (bit field)

Object 0x2C32 Fault Values

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	6	x		
0x01	Unit 1	Unsigned8	0	x	x	

Description of the subindexes

Unit 1: State of valve in case of an error (bit field). Is only considered if the corresponding valve is not activated in 'Fault Actions'.

Valve activated: the valve is actuated in case of an error

Valve not activated: the valve is not actuated in case of an error

Object 0x2C33 Fault Actions

Sub-Index	Name	Data type	Default	Access		PDO mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	6	x		
0x01	Unit 1	Unsigned8	0	x	x	

Description of the subindexes:

Unit 1: Action in case of an error (bit field).

Valve marked: in case of an error, the valve retains its current state

Valve not marked: in case of an error, the valve assumes the state from 'Fault Values'

Object 0x2C50 Actual Switching Time Up Unit 1

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	8	x		
0x01 – 0x08	Actuator 1 – Actuator 8	Unsigned32	-	x		

Actual time the actuator needs to reach the upper end position in milliseconds

Object 0x2C56 Actual Switching Time Down Unit 1

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	8	x		
0x01 – 0x08	Actuator 1 – Actuator 8	Unsigned32	-	x		

Actual time the actuator needs to reach the lower end position in milliseconds

Object 0x2C68 Measurement Actuator Switching Time Up

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	1	x		
0x01	Unit 1	Unsigned8	-	x	x	

Selected actuators that will take part in automatic teach function (bit field). After teach function has started, the actuators that reached the maximum number of measure cycles are removed from bit field by software

Object 0x2C69 Measurement Actuator Switching Time Down

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	1	x		
0x01	Unit 1	Unsigned8	-	x	x	

Selected actuators that will take part in automatic teach function (bit field). After teach function has started, the actuators that reached the maximum number of measure cycles are removed from bit field by software

Object 0x2C6A Start Measurement Actuator Switching Time

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	1	x		
0x01	Unit 1	Unsigned8	0	x	x	

Write 1 to start the automatic teach function (Will be stopped as soon as all actuators have reached the maximum number of measurement cycles). Write 0 will stop the current measurement

Object 0x2C6B Tolerance Actuator Switching Time

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	1	x		
0x01	Unit 1	Unsigned8	30	x	x	

Tolerance in percent of switching time before a maintenance message is sent

Object 0x2C6C Time Out Actuator Switching Time

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	1	x		
0x01	Unit 1	Unsigned32	60000	x	x	

Time out in milliseconds of actuator movement

Object 0x2C6D Feedback Signal Inverted Up

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	1	x		
0x01	Unit 1	Unsigned8	-	x	x	

Invert feedback input signal (bit field)

Object 0x2C6E Feedback Signal Inverted Down

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	1	x		
0x01	Unit 1	Unsigned8	-	x	x	

Invert feedback input signal (bit field)

Object 0x2CA0 Error Configuration

Sub-Index	Name	Data type	Default	Access		pdo mappable
				Read	Write	
0x00	Number Of Entries	Unsigned8	6	x		
0x01	General	Unsigned16	0x2003	x		
0x02	BueS	Unsigned16	0x2001	x		
0x05	Valve	Unsigned16	0x2000	x	x	
0x06	Feedback	Unsigned16	0x2000	x	x	

The upper 8 bits indicate the message type into which an error from the corresponding category is converted

- 0x01: Info message
- 0x04: Maintenance required
- 0x08: Out of specification
- 0x10: Check function
- 0x20: Error

The lower 8 bits represent a bit field containing various settings

- 0x01: Valves enter fault state
- 0x02: büS enters pre-operational state

Category general contains errors like supply voltage out of range or device temperature out of range