

Type 8693

EthernetIP

Objects

Document version 1.06

Supplement to Operating Instructions

Contents

1 History3

1 Overview.....4

2 Objects.....5

2.1 Cyclic data.....5

2.2 Acyclic data.....6

2.2.1 Device Data (class 0xC7)6

2.2.2 Position Controller Parameter (class 0xC6).....7

2.2.3 Process Controller Parameter (class 0xC5, only Type 8693)9

1 History

Document version	Date	Changes
1.06	2022-10-31	Remove object C7 0F 03 in Buerkert Device Description KOpen and KClose were interchanged Fixed Description of NamurStatus (reserved bits 4-7)
1.05	2019-07-05	Added Description of Object Route Function Changed wording: SIM-Card --> Config-Client
1.04	2018-09-18	Correct datatype and bytelength of string parameters
1.03	2018-06-26	Byte length of startTune and z_OPmode was wrong
1.02	2018-02-01	Add Parameters to start Tunes from fieldbus
1.01	2017-12-21	Initial released version

1 Overview

Used datatypes:

UINT8	8 bit: unsigned integer
UINT16	16 bit: unsigned integer
UINT32	32 bit: unsigned integer
REAL32	32 bit: float value IEEE 754
String	C-string

2 Objects

2.1 Cyclic data

Cyclic input data are in class 0x64. Cyclic output in class 0x65

Class	Instance	Attribute	name	description	access type	Config- Client
0x64	0x01	0x03	POS	Current valve position REAL32 in %	RO	
0x64	0x02	0x03	NamurStatus	Represents the device status ¹⁾ UINT8	RO	
0x64	0x03	0x03	PV_UserUnit	Current process value REAL32 in display unit	RO	
0x65	0x01	0x03	CMD	Position set point REAL32 in %	RW	
0x65	0x02	0x03	PV	Process value used if PV source is bus REAL32 in bus specific SI Unit	RW	
0x65	0x03	0x03	M_Temp_FMR	Medium temperature (FMR). Used if medium temperature source is bus REAL32 in Kelvin	RW	
0x65	0x04	0x03	SP_UserUnit	Process set point REAL32 in display unit	RW	

1)

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
reserved				Namur state: 0 – normal 1 – diagnose active 2 – maintenance required 3 – out of specification 4 – warning 5 - error			

2.2 Acyclic data

2.2.1 Device Data (class 0xC7)

2.2.1.1 Object Route Function

Class	Instance	Attribute	name	description	access type	Config- Client
0xC7	0x01	0x03	Index / Subindex / NodeID	Target object: Writing Index and Subindex of the object. Index and Subindex are stored in the device description/EDS. The NodeID is always 0. Index: 2 bytes (MSB), Subindex: 1 byte, Node ID: 1 byte (always 0). For write access + 0x00000080 UINT32	RW	
0xC7	0x02	0x03	Data length (write access)	Data length of the write command in bytes, number of valid bytes is not specified for reading. UINT32	RW	
0xC7	0x03	0x03	Value UINT32	Here the value to be written is specified or the readout value is displayed. Data ≤ 4 bytes. UINT32	RW	
0xC7	0x04	0x03	Value String	Is used to read and write texts. Data > 4 bytes. STRING	RW	
0xC7	0x05	0x03	result	Process result: 0 = Command successfully executed > 0 = Error occurred during execution (see "Table 6") 0xFFFFFFFF: Read and write process not yet Concluded UINT32	RO	
0xC7	0x06	0x03	call/cancel	Execute command: 1 = execute 0 = finish UINT8	RW	
0xC7	0x07	0x03	Control Mode		RW	

2.2.1.2 Buerkert Device Description Object

Class	Instance	Attribute	name	description	access type	Config-Client
0xC7	0x08	0x03	Device Name	Unique device name Visible string	RO	
0xC7	0x09	0x03	Ident Number	Device ID No. UINT32	RO	
0xC7	0x0A	0x03	Manufacture Date	Visible string	RO	
0xC7	0x0B	0x03	Software Ident Number	Uint32 ID No. of firmware UINT32	RO	
0xC7	0x0C	0x03	Software Version	Version No. of firmware UINT32	RO	
0xC7	0x0D	0x03	Hardware Version	Version No. of hardware UINT32	RO	
0xC7	0x0E	0x03	Serial Number	Serial No. device UINT32	RO	

2.2.2 Position Controller Parameter (class 0xC6)

Class	Instance	Attribute	name	description	access type	Config-Client
0xC6	0x01	0x0003	DBDx	Deadband of the position controller in % REAL32	RW	X
0xC6	0x02	0x0003	KPclose	Proportional gain for closing the valve SINT16	RW	X
0xC6	0x03	0x0003	KPopen	Proportional gain for opening the valve SINT16	RW	X
0xC6	0x04	0x0003	mCHARACT	Charact curve selected 0: No charact curve 1:Charact Curve 1:25 2:Charact Curve 1:33 3:Charact Curve 1:50 4:Charact Curve 25:1 5:Charact Curve 33:1 6:Charact Curve 50:1 7:FREE (See0x2C11 for definig the values) See User Manual for description of the function. SINT16	RW	X
0xC6	0x05	0x0003	CUTOFFmin	Lower CUTOFF level in % SINT16	RW	X
0xC6	0x06	0x0003	CUTOFFmax	Upper CUTOFF level in % SINT16	RW	X
0xC6	0x07	0x0003	POSmin	Lower position for X.LIMIT in % SINT16	RW	X
0xC6	0x08	0x0003	POSmax	Upper position for X.LIMIT in % SINT16	RW	X
0xC6	0x09	0x0003	XTIMEopen	Limited opening time of the valve in s (X.TIME)	RW	X

				REAL32		
0xC6	0x0A	0x0003	XTIMEclose	Limited closing time of the valve in s (X.TIME) REAL32	RW	X
0xC6	0x0B	0x0003	mDIRact	0: Rise (lower position > 0%) 1: Fall (upper position-> 100%) See User Manual for description of the function. SINT16	RW	X
0xC6	0x0C	0x0003	mSAFEpos	Position used as safepos in % SINT16	RW	X
0xC6	0x0D	0x0003	TUNEflags	0 if last tune was successful UINT8	RO	
0xC6	0x0E	0x0003	Menu_Items	Bitfield to Activate/Deactivate functions from ADD.FUNCTION menu Bit0 – Bit6: unused Bit7: CHARACT Bit8: CUTOFF Bit9: DIR.CMD Bit10: DIR.ACT Bit11: SPLTRNG Bit12: X.LIMIT Bit13: X.TIME Bit14: X.CONTROL Bit15: P.CONTROL (only 8693/8793) Bit16: SECURITY Bit17: SAFEPOS Bit18: SIG.ERROR Bit19: BINARY.IN Bit20: OUTPUT Bit21: CAL.USER Bit22: SET.FACTORY Bit23: SERVICE.BUES Bit24: EXTRAS Bit25: POS.SENSOR (only type 879X) Bit26: SERVICE Bit27: SIMULATION Bit28: DIAGNOSE Bit29: F.CONTROL (only with FMR option) UINT32	RW	X
0xC6	0x0F	0x0003	startTune	Start Tune via fieldbus 2: X.Tune 9: P.Q.Lin 10 : P.Tune startTune is set back from device 0:TUNE successfully started 255:TUNE could not be started Tune has finished when zOPmode changed back to Auto or Manual mode. Get result of last tune by reading object TUNEflags *since Release B.02.01 UINT8	RW	
0xC6	0x10	0x0003	z_OPmode	Get the current operating mode 0: Auto 1: Hand 2: X.Tune 9: P.Q.Lin 10 : P.Tune *since Release B.02.01	RO	

				UINT8		
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2.2.3 Process Controller Parameter (class 0xC5, only Type 8693)

Class	Instance	Attribute	name	description	access type	Config- Client
0xC5	0x01	0x0003	DBDp	Deadband of process controller in % (Scaled with PCOmin and PCOmax) REAL32	RW	X
0xC5	0x02	0x0003	KP	Proportional gain of the process controller REAL32	RW	X
0xC5	0x03	0x0003	TN	Integral action time of the process controller in s REAL32	RW	X
0xC5	0x04	0x0003	TV	Derivative action time of the process controller in s REAL32	RW	X
0xC5	0x05	0x0003	X_0	Operating point of the process controller, position in % REAL32	RW	X
0xC5	0x06	0x0003	mPCONsetp	0:SP source is SP_Manual (2C01subC) 1: SP source is extern (fielbus or analog input) SINT16	RW	X
0xC5	0x07	0x0003	mPCONinp	Selecting the type of analog input for ProcessValue of the process controller 0:FMR (only if FMR device) 1:4-20 mA 2:Ferquency 3:PT100 4:BueS/Fieldbus SINT16	RW	X
0xC5	0x08	0x0003	FTfgPV	Predefined filter setting Values for the process value input 0: Filter 0 (10 Hz) 1: Filter 1 (5 Hz) 2: Filter 2 (2 Hz) 3: Filter 3 (1 Hz) 4: Filter 4 (0,5 Hz) 5: Filter 5 (0,2 Hz) 6: Filter 6 (0,1 Hz) 7: Filter 7 (0,07 Hz) 8: Filter 8 (0,05 Hz) 9: Filter 9 (0,03 Hz) SINT16	RW	X
0xC5	0x09	0x0003	SCALunit	Unit of process controller 0: l/s 1: l/min 2: l/h 3: m³/min 4: m³/h 5: UG/s 6: UG/min 7: UG/h 8: IG/s 9: IG/min 10: IG/h 11: °C 12: °F	RW	X

				13: m/s 14: bar 15: mbar 16: psi 17: % 18: mm 19: m 20: Liter 21: none SINT16		
0xC5	0x0A	0x0003	SCALdp	Decimal point of process controller scaling (0-3) SINT16	RW	X
0xC5	0x0B	0x0003	PVmin	Lower scaling point PV (bueS specific SI unit) REAL32	RW	X
0xC5	0x0C	0x0003	PVmax	Upper scaling point PV (bueS specific SI unit) REAL32	RW	X
0xC5	0x0D	0x0003	SPmin	Lower scaling point SP (bueS specific SI unit) REAL32	RW	X
0xC5	0x0E	0x0003	SPmax	Upper scaling point SP (bueS specific SI unit) REAL32	RW	X
0xC5	0x0F	0x0003	mCUTOFFtype	0: CUTOFF function is based on SP 1: CUTOFF function is based on CMD See User Manual for description of the function. SINT16	RW	X
0xC5	0x10	0x0003	mERRpinp_func	0: signal break detection of PV inactive 1: signal break detection of PV active SINT16	RW	X
0xC5	0x11	0x0003	mSPOSpinp_func	0: no safepos when PV signal break detected 1: safepos when PV signal break detected SINT16	RW	X
0xC5	0x12	0x03	mPCONact	Deactivate process controller via bueS/fieldbus 0: process controller inactive 1: process controller active UINT8	RW	