

Type 8793

Profinet

Objects

Document version 2.00

Supplement to Operating Instructions

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1 History

Document version	Date	Changes
2.00	2022-07-19	Object Route function is disabled by default Changed wording Config Client → Backup File KPopen and KPclose were interchanged Parameter in display unit zError added
1.03	2019-07-05	Added Description of Object Route Function Changed wording: SIM-Card → Config-Client
1.02	2018-02-01	Add Parameters to start Tunes from fieldbus
1.01	2017-12-21	Initial released version

2 Overview

Used datatypes:

UINT8	8 bit: unsigned integer
UINT16	16 bit: unsigned integer
UINT32	32 bit: unsigned integer
SINT16	16 bit: signed integer
REAL32	32 bit: float value IEEE 754
String	C-string

3 Objects

3.1 Cyclic data

Cyclic data are available on several slots / subslots.

Slot	Subslot	Index	name	description	access type	Backup File
0x01	0x01	0x0001	NamurStatus	Represents the device status ¹⁾ UINT8	RO	
0x02	0x01	0x0001	CMD	Position set point REAL32 in %	RW	
0x02	0x02	0x0001	POS	Current valve position REAL32 in %	RO	
0x03	0x01	0x0001	PV_UserUnit	Current process value REAL32 in display unit	RO	
0x03	0x02	0x0001	PV	Process value used if PV source is bus REAL32 in display unit	RW	
0x03	0x03	0x0001	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			

3.2 Acyclic data

3.2.1 Device Data (Index 0x00__)

3.2.1.1 Object Route Function

The function is disabled by default.

It can be enabled via the device menu.

Slot	Subslot	Index	name	description	access type	Backup File
0x00	0x01	0x0001	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	
0x00	0x01	0x0002	Data length (write access)	Data length of the write command in bytes, number of valid bytes is not specified for reading. UINT32	RW	
0x00	0x01	0x0003	Value UINT32	Here the value to be written is specified or the readout value is displayed. Data ≤ 4 bytes. UINT32	RW	
0x00	0x01	0x0004	Value String	Is used to read and write texts. Data > 4 bytes. STRING	RW	
0x00	0x01	0x0005	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	
0x00	0x01	0x0006	call/cancel	Execute command: 1 = execute 0 = finish UINT8	RW	

3.2.1.2 Control Mode

Slot	Subslot	Index	name	description	access type	Backup File
0x00	0x01	0x0007	Control Mode		RW	

3.2.1.3 Buerkert Device Description Object

Slot	Subslot	Index	name	description	access type	Backup File
0x00	0x01	0x0008	Device Name	Unique device name Visible string	RO	
0x00	0x01	0x0009	Ident Number	Device ID No. UINT32	RO	
0x00	0x01	0x000A	Manufacture Date	Visible string	RO	
0x00	0x01	0x000B	Software Ident Number	ID No. of firmware UINT32	RO	
0x00	0x01	0x000C	Software Version	Version No. of firmware UINT32	RO	
0x00	0x01	0x000D	Hardware Version	Version No. of hardware UINT32	RO	
0x00	0x01	0x000E	Serial Number	Serial No. device UINT32	RO	

3.2.2 Position Controller Parameter (Index 0x02__)

Slot	Subslot	Index	name	description	access type	Backup File
0x00	0x01	0x0201	DBDx	Deadband of the position controller in % REAL32	RW	X
0x00	0x01	0x0202	KPclose	Proportional gain for closing the valve SINT16	RW	X
0x00	0x01	0x0203	KPopen	Proportional gain for opening the valve SINT16	RW	X
0x00	0x01	0x0204	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 (See CHARACTy for defining the values) See User Manual for description of the function. SINT16	RW	X
0x00	0x01	0x0205	CUTOFFmin	Lower CUTOFF level in % SINT16	RW	X
0x00	0x01	0x0206	CUTOFFmax	Upper CUTOFF level in % SINT16	RW	X
0x00	0x01	0x0207	POSmin	Lower position for X.LIMIT in % SINT16	RW	X
0x00	0x01	0x0208	POSmax	Upper position for X.LIMIT in % SINT16	RW	X
0x00	0x01	0x0209	XTIMEopen	Limited opening time of the valve in s (X.TIME) REAL32	RW	X

0x00	0x01	0x020A	XTIMEclose	Limited closing time of the valve in s (X.TIME) REAL32	RW	X
0x00	0x01	0x020B	mDIRact	0: direct effective direction (deaerated → 0 %; aerated 100 %) 1: inverse effective direction (deaerated → 100 %; aerated 0 %) See User Manual for description of the function. SINT16	RW	X
0x00	0x01	0x020C	mSAFEpos	Position used as safepos in % SINT16	RW	X
0x00	0x01	0x020D	TUNEflags	0 if last tune was successful UINT8	RO	
0x00	0x01	0x020E	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
0x00	0x01	0x020F	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	
0x00	0x01	0x0210	z_OPmode	Get the current operating mode 0: Auto 1: Manual mode 2: X.Tune 9: P.Q.Lin 10 : P.Tune *since Release B.02.01	RO	

				UINT8		
0x00	0x01	0x0212	CHARACTy1	freely programmable characteristic node 1 SINT16	RW	X
0x00	0x01	0x0213	CHARACTy2	freely programmable characteristic node 2 SINT16	RW	X
0x00	0x01	0x0214	CHARACTy3	freely programmable characteristic node 3 SINT16	RW	X
0x00	0x01	0x0215	CHARACTy4	freely programmable characteristic node 4 SINT16	RW	X
0x00	0x01	0x0216	CHARACTy5	freely programmable characteristic node 5 SINT16	RW	X
0x00	0x01	0x0217	CHARACTy6	freely programmable characteristic node 6 SINT16	RW	X
0x00	0x01	0x0218	CHARACTy7	freely programmable characteristic node 7 SINT16	RW	X
0x00	0x01	0x0219	CHARACTy8	freely programmable characteristic node 8 SINT16	RW	X
0x00	0x01	0x021A	CHARACTy9	freely programmable characteristic node 9 SINT16	RW	X
0x00	0x01	0x021B	CHARACTy10	freely programmable characteristic node 10 SINT16	RW	X
0x00	0x01	0x021C	CHARACTy11	freely programmable characteristic node 11 SINT16	RW	X
0x00	0x01	0x021D	CHARACTy12	freely programmable characteristic node 12 SINT16	RW	X
0x00	0x01	0x021E	CHARACTy13	freely programmable characteristic node 13 SINT16	RW	X
0x00	0x01	0x021F	CHARACTy14	freely programmable characteristic node 14 SINT16	RW	X
0x00	0x01	0x0220	CHARACTy15	freely programmable characteristic node 15 SINT16	RW	X
0x00	0x01	0x0221	CHARACTy16	freely programmable characteristic node 16 SINT16	RW	X
0x00	0x01	0x0222	CHARACTy17	freely programmable characteristic node 17 SINT16	RW	X
0x00	0x01	0x0223	CHARACTy18	freely programmable characteristic node 18 SINT16	RW	X
0x00	0x01	0x0224	CHARACTy19	freely programmable characteristic node 19 SINT16	RW	X
0x00	0x01	0x0225	CHARACTy20	freely programmable characteristic node 20 SINT16	RW	X
0x00	0x01	0x0226	CHARACTy21	freely programmable characteristic node 21 SINT16	RW	X
0x00	0x01	0x0211	mDIRcmd	0: Rise (direct effective direction) 1: Fall (inverse effective direction) See User Manual for description of the function. SINT16	RW	X
0x00	0x01	0x0227	zError	Bit0 – Bit9: internal Bit10: cable break PV Bit11: cable break CMD Bit12: cable break SP Bit13: cable break PT100 Bit 14: cable break P1 Bit15: cable break P2 Bit16: cable break MTMP Bit17 – Bit20: internal	RO	

				<i>Bit21: WMS signal error</i> <i>Bit22: Puck signal too weak</i> <i>Bit23: CMD out of specification</i> <i>Bit24: SP out of specification</i> <i>Bit25: PV out of specification</i> <i>Bit26: MTMP out of specification</i> <i>UINT32</i>		
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3.2.3 Process Controller Parameter (Index 0x03___, only Type 8693)

Slot	Subslot	Index	name	description	access type	Backup File
0x00	0x01	0x0301	DBDp	Deadband of process controller in % (Scaled with PVmin and PVmax) REAL32	RW	X
0x00	0x01	0x0302	KP	Proportional gain of the process controller REAL32	RW	X
0x00	0x01	0x0303	TN	Integral action time of the process controller in s REAL32	RW	X
0x00	0x01	0x0304	TV	Derivative action time of the process controller in s REAL32	RW	X
0x00	0x01	0x0305	X_0	Operating point of the process controller, position in % REAL32	RW	X
0x00	0x01	0x0306	mPCONsetp	0: Input of the set-point value on the process level 1: Default of the set-point value via fieldbus input SINT16	RW	X
0x00	0x01	0x0307	mPCONinp	Selecting the type of analog input for ProcessValue of the process controller 1:4-20 mA 2:Frequency 3:PT100 4:BueS/Fieldbus SINT16	RW	X
0x00	0x01	0x0308	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
0x00	0x01	0x0309	SCALunit	Unit of process controller 0: l/s ¹ 1: l/min ¹ 2: l/h ¹ 3: m ³ /min ¹ 4: m ³ /h ¹ 5: UG/s ¹ 6: UG/min ¹ 7: UG/h ¹ 8: IG/s ¹ 9: IG/min ¹ 10: IG/h ¹ 11: °C ² 12: °F ² 13: m/s	RW	X

¹ mPCONinp = 2 (Frequency) can only use values 0 - 10

² mPCONinp = 3 (PT100) can only use values 11 and 12

				14: bar 15: mbar 16: psi 17: % 18: mm 19: m 20: Liter 21 : NI/s 22 : NI/min 23 : NI/h 24: none SINT16		
0x00	0x01	0x030A	SCALdp	Decimal point of process controller scaling (0-3) SINT16	RW	X
0x00	0x01	0x030B	PVmin	Lower scaling point PV (display unit) REAL32	RW	X
0x00	0x01	0x030C	PVmax	Upper scaling point PV (display unit) REAL32	RW	X
0x00	0x01	0x030D	SPmin	Lower scaling point SP (display unit) REAL32	RW	X
0x00	0x01	0x030E	SPmax	Upper scaling point SP (display unit) REAL32	RW	X
0x00	0x01	0x030F	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
0x00	0x01	0x0310	mERRpinp_func	0: signal break detection of PV inactive 1: signal break detection of PV active SINT16	RW	X
0x00	0x01	0x0311	mSPOSpinp_func	0: no safepos when PV signal break detected 1: safepos when PV signal break detected Requires that mERRpinp_func is activated SINT16	RW	X
0x00	0x01	0x0312	PCONact	Deactivate process controller via bueS/fieldbus 0: process controller inactive 1: process controller active UINT8	RW	

4 Unit conversion

Display Unit	bueS specific SI Unit	Scaling factor
l/s	l/min	1/60
l/min	l/min	1
l/h	l/min	60
m³/min	l/min	1/1000
m³/h	l/min	60/1000
UG/s	l/min	1/(3.7854 * 60)
UG/min	l/min	1/3.7854
UG/h	l/min	60/3.7854
IG/s	l/min	1/(4.5461 * 60)
IG/min	l/min	1/4.5461
IG/h	l/min	60/4.5461
°C	K	$T_{°C} = T_K - 273.15$ °
°F	K	$T_{°F} = T_K * 1.8 - 459.67$
m/s	m/s	1
bar	Pa	1/100000
mbar	Pa	1/100
psi	Pa	1.450377e-4
%	%	1
mm	m	1000
m	m	1
l	l	1
NI/s	NI/min	1/60
NI/min	NI/min	1
NI/h	NI/min	60