Fieldbuslist

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System-specific data-point list Modbus SCe FFS Poland

SCe FFS Poland

Holding register (Protocol)	Name	Data type	Scale & unit	Elements	Access
40001 (0)	Version communication profile	UINT16	0.001		R
40002 (1)	Wink service	BOOL			RW
40003 (2)	Switch box type	ENUM		0. SC 1. SC...FC 2. SCe 6. SCe NWB	R
40008 - 40009 (7 - 8)	Switch box ID	UINT32	1		R
40014 (13)	Bus command timer	ENUM		0. - 1. Off 2. Set 3. Active 4. Reset 5. Manual	RW
40015 (14)	Drives on/off	BOOL			RW
40016 (15)	Pump 1 hand RPM	UINT16	0.1 %		RW
40017 (16)	Pump 2 hand RPM	UINT16	0.1 %		RW
40018 (17)	Pump 3 hand RPM	UINT16	0.1 %		RW
40019 (18)	Pump 4 hand RPM	UINT16	0.1 %		RW
40026 (25)	Current value	INT16	0.1 bar		R
40027 (26)	Active setpoint value	INT16	0.1 bar		R
40028 (27)	Number of pumps	UINT16	1		R
40029 (28)	Maximum active pumps	UINT16	1		R
40033 (32)	Pump 1 state	BITMAP		0: Auto 1: Manu 2: Disabled 3: Running 5: Error	R
40034 (33)	Pump 2 state	BITMAP		0: Auto 1: Manu 2: Disabled 3: Running 5: Error	R
40035 (34)	Pump 3 state	BITMAP		0: Auto 1: Manu 2: Disabled 3: Running 5: Error	R
40041 (40)	Pump 1 mode	ENUM		0. Off 1. Hand 2. Auto	RW
40042 (41)	Pump 2 mode	ENUM		0. Off 1. Hand 2. Auto	RW
40043 (42)	Pump 3 mode	ENUM		0. Off 1. Hand 2. Auto	RW
40044 (43)	Pump 4 mode	ENUM		0. Off 1. Hand 2. Auto	RW
40050 (49)	Pump 1 actual speed	UINT16	0.1 %		R
40051 (50)	Pump 2 actual speed	UINT16	0.1 %		R
40052 (51)	Pump 3 actual speed	UINT16	0.1 %		R
40053 (52)	Pump 4 actual speed	UINT16	0.1 %		R

Holding register (Protocol)	Name	Data type	Scale & unit	Elements	Access
40062 (61)	Switch box state	BITMAP		0: SBM 1: SSM 2: External off 3: Setpoint 2 4: External setpoint 5: SBM output (0:Run / 1:Ready) 6: SSM output (0:Fall / 1: Raise) 7: Fire mode active	R
40068 (67)	Set point 1	UINT16	0.1 bar		RW
40069 (68)	Set point 2	UINT16	0.1 bar		RW
40074 (73)	Application	ENUM		0. Booster 1. HVAC 2. WP 3. Lift 4. FFS-Diesel 5. FFS-Electro 6. FLA 7. Clean 8. Rain	R
40075 (74)	External set point value	INT16	0.1 bar		R
40076 (75)	External set point on/off	BOOL			RW
40077 - 40078 (76 - 77)	Switch box cycles	UINT32	1		R
40079 - 40080 (78 - 79)	Switch box total running hours	UINT32	1 h		R
40081 - 40082 (80 - 81)	Pump 1 switch cycles	UINT32	1		R
40083 - 40084 (82 - 83)	Pump 2 switch cycles	UINT32	1		R
40085 - 40086 (84 - 85)	Pump 3 switch cycles	UINT32	1		R
40087 - 40088 (86 - 87)	Pump 4 switch cycles	UINT32	1		R
40097 - 40098 (96 - 97)	Pump 1 total running hours	UINT32	1 h		R
40099 - 40100 (98 - 99)	Pump 2 total running hours	UINT32	1 h		R
40101 - 40102 (100 - 101)	Pump 3 total running hours	UINT32	1 h		R
40103 - 40104 (102 - 103)	Pump 4 total running hours	UINT32	1 h		R
40139 - 40140 (138 - 139)	Error state	BITMAP32		0: Sensor error 1: Pressure maximum 2: Pressure minimum 4: Dry Run (TLS) 5: Pump 1 Alarm 6: Pump 2 Alarm 7: Pump 3 Alarm 8: Pump 4 Alarm 25: External signal 26: Sensor error 2 27: Sensor error 3 28: MOIB failure	R
40141 (140)	Acknowledge	BOOL			R
40142 (141)	Alarm history index	UINT16	1		RW
40143 (142)	Alarm history error code	UINT16	0.1		R
40147 (146)	Alarm histogram index	UINT16	1		RW
40148 (147)	Alarm histogram error code	UINT16	0.1		R
40149 (148)	Alarm histogram error count	UINT16	1		R

Detailed description of data points SCe FFS Poland

Version communication profile

Description	The version number for fieldbus list used in this switch box. The number before the point changes if the list is incompatible with previous version. For example if new items were replaced. The number after the point changes if changes are compatible with previous version of the list. So, you only need to update your control system if you want to use new features.
Added	31.000
Access	R
Level	All users
Modbus register	40001
Modbus data type	UINT16
Modbus scale and unit	0.001

Wink service

Description	If wink service is activated by writting a value larger than zero an indicator in the HMI is blinking for 30 seconds (SC: pump symbol LED; CC: fieldbus symbol) to help to identify the device.
Added	31.000
Access	RW
Level	All users
Modbus register	40002
Modbus elements	BOOL

Switch box type

Description	This item describes the controller and the current variant.
Added	31.000
Access	R
Level	All users
Modbus register	40003
Modbus data type	ENUM
Modbus elements	0. SC 1. SC...FC 2. SCe 3. CC 4. CC...FC 5. CCe 6. SCe NWB 7. CCe NWB 8. EC 9. ECe 10. ECe NWB 11. SC WIS

Switch box ID

Description	The serial number of the switch box.
Added	31.000
Access	R
Level	All users
Modbus register	40008 - 40009
Modbus data type	UINT32
Modbus scale and unit	1

Bus command timer

Description	This parameter is responsible for access via HMI and/or fieldbus. Several possibilities exist. Option "manual", HMI and fieldbus can access the switch box parameters. In this case HMI and fieldbus have the same priority and last written value is active. Option "Off", the HMI is locked completely, so only fieldbus has access. If fieldbus fails, you have no access to the switch box until fieldbus is recovered. Option "Set", HMI is locked and a five minutes timer starts and the state of this register changes to "Active". The "Set" option has to be send at least every five minutes to keep the "Active" state. If Option "Set" is not send again, state changes to "Reset" and HMI gets back access and fieldbus is locked. To unlock fieldbus you have to send "Off, "Set" , or "Manual" before you can access any other register through the fieldbus.
Added	31.000
Access	RW

Level	All users
Modbus register	40014
Modbus data type	ENUM
Modbus elements	0. - 1. Off 2. Set 3. Active 4. Reset 5. Manual

Drives on/off

Description	To switch automatic and all pumps on or off. Pump kick does not take place if drives are off which is different from Extern off.
Added	31.000
Access	RW
Level	All users
Modbus register	40015
Modbus elements	BOOL

Pump 1 hand RPM

Description	The speed of the pump 1 in manual mode.
Added	31.000
Access	RW
Level	All users
Modbus register	40016
Modbus data type	UINT16
Modbus scale and unit	0.1 %

Pump 2 hand RPM

Description	The speed of the pump 2 in manual mode.
Added	31.000
Access	RW
Level	All users
Modbus register	40017
Modbus data type	UINT16
Modbus scale and unit	0.1 %

Pump 3 hand RPM

Description	The speed of the pump 3 in manual mode.
Added	31.000
Access	RW
Level	All users
Modbus register	40018
Modbus data type	UINT16
Modbus scale and unit	0.1 %

Pump 4 hand RPM

Description	The speed of the pump 4 in manual mode.
Added	31.000
Access	RW
Level	All users
Modbus register	40019
Modbus data type	UINT16
Modbus scale and unit	0.1 %

Current value

Description	This data point returns the current value of the measured physical quantity. Depending on the active control mode and switch box the unit bar is used for pressure constant control mode (p-c), the unit meter for differential pressure constant control mode (dp-c, dp-v), Kelvin for differential temperature constant control mode (dT-c, dT-v) and degree Celsius for temperature constant control mode (T-c). For clean application it shows the time in minutes or hours until next flushing.
Added	31.000
Access	R
Level	All users
Modbus register	40026

Modbus data type	INT16
Modbus scale and unit	0.1 bar 0.1 m 0.1 K 0.1 °C 1 min 0.1 h 0.1 psi 1 cm 0.1 m³/h

Active setpoint value

Description	The active set point. The unit depends on the active control mode. Depending on the active control mode and switch box the unit bar is used for pressure constant control mode (p-c), the unit meter for differential pressure constant control mode (dp-c, dp-v), Kelvin for differential temperature constant control mode (dT-c, dT-v) and degree Celsius for temperature constant control mode (T-c) and for temperature controlled pump speed. For clean application it represents the number of flushings per day or month.
Added	31.000
Access	R
Level	All users
Modbus register	40027
Modbus data type	INT16
Modbus scale and unit	0.1 bar 0.1 m 0.1 K 0.1 °C 1/day 1/month 0.1 psi 0.1 m³/h

Number of pumps

Description	The total number of pumps present in the system.
Added	31.000
Access	R
Level	All users
Modbus register	40028
Modbus data type	UINT16
Modbus scale and unit	1

Maximum active pumps

Description	The maximum number of simultanious running pumps in the system.
Added	31.000
Access	R
Level	All users
Modbus register	40029
Modbus data type	UINT16
Modbus scale and unit	1

Pump 1 state

Description	The data point returns the state (error, running, ...) of pump 1 as a bitmap.
Added	31.000
Access	R
Level	All users
Modbus register	40033
Modbus data type	BITMAP
Modbus elements	0: Auto 1: Manu 2: Disabled 3: Running 4: Warning 5: Error 6: Reserve pump 7: Filter purging

Pump 2 state

Description	The data point returns the state (error, running, ...) of pump 2 as a bitmap.
Added	31.000

Access	R
Level	All users
Modbus register	40034
Modbus data type	BITMAP
Modbus elements	0: Auto 1: Manu 2: Disabled 3: Running 4: Warning 5: Error 6: Reserve pump 7: Filter purging

Pump 3 state

Description	The data point returns the state (error, running, ...) of pump 3 as a bitmap.
Added	31.000
Access	R
Level	All users
Modbus register	40035
Modbus data type	BITMAP
Modbus elements	0: Auto 1: Manu 2: Disabled 3: Running 4: Warning 5: Error 6: Reserve pump

Pump 1 mode

Description	The pump mode (off, on, auto) for the single pumps 1.
Added	31.000
Access	RW
Level	All users
Modbus register	40041
Modbus data type	ENUM
Modbus elements	0. Off 1. Hand 2. Auto

Pump 2 mode

Description	The pump mode (off, on, auto) for the single pumps 2.
Added	31.000
Access	RW
Level	All users
Modbus register	40042
Modbus data type	ENUM
Modbus elements	0. Off 1. Hand 2. Auto

Pump 3 mode

Description	The pump mode (off, on, auto) for the single pumps 3.
Added	31.000
Access	RW
Level	All users
Modbus register	40043
Modbus data type	ENUM
Modbus elements	0. Off 1. Hand 2. Auto

Pump 4 mode

Description	The pump mode (off, on, auto) for the single pumps 4.
Added	31.000
Access	RW
Level	All users
Modbus register	40044
Modbus data type	ENUM
Modbus elements	0. Off 1. Hand 2. Auto

Pump 1 actual speed

Description	The actual speed of pump 1. Unit (rpm,%) depends on switch box. For switch boxes designed to control electronic pumps with analog speed signal the speed is given in percent and for switch boxes using NWB the speed is in rounds per minute. For switch boxes CC...FC the speed is given in Hertz.
Added	31.000
Access	R
Level	All users
Modbus register	40050
Modbus data type	UINT16
Modbus scale and unit	0.1 % 0.1 Hz 1 1/min

Pump 2 actual speed

Description	The actual speed of pump 2. Unit (rpm,%) depends on switch box. For switch boxes designed to control electronic pumps with analog speed signal the speed is given in percent and for switch boxes using NWB the speed is in rounds per minute. For switch boxes CC...FC the speed is given in Hertz.
Added	31.000
Access	R
Level	All users
Modbus register	40051
Modbus data type	UINT16
Modbus scale and unit	0.1 % 0.1 Hz 1 1/min

Pump 3 actual speed

Description	The actual speed of pump 3. Unit (rpm,%) depends on switch box. For switch boxes designed to control electronic pumps with analog speed signal the speed is given in percent and for switch boxes using NWB the speed is in rounds per minute. For switch boxes CC...FC the speed is given in Hertz.
Added	31.000
Access	R
Level	All users
Modbus register	40052
Modbus data type	UINT16
Modbus scale and unit	0.1 % 0.1 Hz 1 1/min

Pump 4 actual speed

Description	The actual speed of pump 4. Unit (rpm,%) depends on switch box. For switch boxes designed to control electronic pumps with analog speed signal the speed is given in percent and for switch boxes using NWB the speed is in rounds per minute. For switch boxes CC...FC the speed is given in Hertz.
Added	31.000
Access	R
Level	All users
Modbus register	40053
Modbus data type	UINT16
Modbus scale and unit	0.1 % 0.1 Hz 1 1/min

Switch box state

Description	The global state (Operation; Alarm) of the switch box.
Added	31.000
Access	R
Level	All users
Modbus register	40062
Modbus data type	BITMAP

Modbus elements	0: SBM 1: SSM 2: External off 3: Setpoint 2 4: External setpoint 5: SBM output (0:Run / 1:Ready) 6: SSM output (0:Fall / 1: Raise) 7: Fire mode active 8: EBM Pump 1 9: EBM Pump 2 10: EBM Pump 3 11: EBM Pump 4 12: Setpoint 3 13: Stagnation flush 14: Pump emergency drainage

Set point 1

Description	First set-point of controller. Depending on the active control mode and switch box the unit bar is used for pressure constant control mode (p-c), the unit meter for differential pressure constant control mode (dp-c, dp-v), Kelvin for differential temperature constant control mode (dT-c, dT-v) and degree Celsius for temperature constant control mode (T-c) and for temperature controlled pump speed.
Added	31.000
Access	RW
Level	All users
Modbus register	40068
Modbus data type	UINT16
Modbus scale and unit	0.1 bar 0.1 m 0.1 K 0.1 °C 0.1 psi

Set point 2

Description	Second set-point of controller. Depending on the active control mode and switch box the unit bar is used for pressure constant control mode (p-c), the unit meter for differential pressure constant control mode (dp-c, dp-v), Kelvin for differential temperature constant control mode (dT-c, dT-v) and degree Celsius for temperature constant control mode (T-c) and for temperature controlled pump speed.
Added	31.000
Access	RW
Level	All users
Modbus register	40069
Modbus data type	UINT16
Modbus scale and unit	0.1 bar 0.1 m 0.1 K 0.1 °C 0.1 psi

Application

Description	Returns the application the software ist designed for
Added	31.101
Access	R
Level	All users
Modbus register	40074
Modbus data type	ENUM
Modbus elements	0. Booster 1. HVAC 2. WP 3. Lift 4. FFS-Diesel 5. FFS-Electro 6. FLA 7. Clean 8. Rain

External set point value

Description	If control mode is p-c, dp-c, dT-c, n(Tx) it returns the actual external value. Depending on panel and regulation the following units are used: bar for p-c, m for dp-*, K for dT-*, °C for T-c.
Added	31.000
Access	R
Level	All users
Modbus register	40075
Modbus data type	INT16
Modbus scale and unit	0.1 bar 0.1 m 0.1 K 0.1 °C 0.1 psi 0.1 m³/h

External set point on/off

Description	Enable or disable the external set point were set-point is defined by analog input from an external device.
Added	31.000
Access	RW
Level	All users
Modbus register	40076
Modbus elements	BOOL

Switch box cycles

Description	The total number of power offs for the switch box.
Added	31.000
Access	R
Level	All users
Modbus register	40077 - 40078
Modbus data type	UINT32
Modbus scale and unit	1

Switch box total running hours

Description	The total on-time of the switch box in hours.
Added	31.000
Access	R
Level	All users
Modbus register	40079 - 40080
Modbus data type	UINT32
Modbus scale and unit	1 h

Pump 1 switch cycles

Description	The total number of switch cycles for pump 1
Added	31.000
Access	R
Level	All users
Modbus register	40081 - 40082
Modbus data type	UINT32
Modbus scale and unit	1

Pump 2 switch cycles

Description	The total number of switch cycles for pump 2
Added	31.000
Access	R
Level	All users
Modbus register	40083 - 40084
Modbus data type	UINT32
Modbus scale and unit	1

Pump 3 switch cycles

Description	The total number of switch cycles for pump 3
Added	31.000
Access	R
Level	All users
Modbus register	40085 - 40086
Modbus data type	UINT32
Modbus scale and unit	1

Pump 4 switch cycles

Description	The total number of switch cycles for pump 4
Added	31.000
Access	R
Level	All users
Modbus register	40087 - 40088
Modbus data type	UINT32
Modbus scale and unit	1

Pump 1 total running hours

Description	The total running time of pump 1 in hours.
Added	31.000
Access	R
Level	All users
Modbus register	40097 - 40098
Modbus data type	UINT32
Modbus scale and unit	1 h

Pump 2 total running hours

Description	The total running time of pump 2 in hours.
Added	31.000
Access	R
Level	All users
Modbus register	40099 - 40100
Modbus data type	UINT32
Modbus scale and unit	1 h

Pump 3 total running hours

Description	The total running time of pump 3 in hours.
Added	31.000
Access	R
Level	All users
Modbus register	40101 - 40102
Modbus data type	UINT32
Modbus scale and unit	1 h

Pump 4 total running hours

Description	The total running time of pump 4 in hours.
Added	31.000
Access	R
Level	All users
Modbus register	40103 - 40104
Modbus data type	UINT32
Modbus scale and unit	1 h

Error state

Description	The error states for the switch box as a bitmap. Therefore several errors can be indicated simultaniously. No all errors are supported by all panels.
Added	31.000
Access	R
Level	All users
Modbus register	40139 - 40140
Modbus data type	BITMAP32

Modbus elements	0: Sensor error 1: Pressure maximum 2: Pressure minimum 3: FC Error 4: Dry Run (TLS) 5: Pump 1 Alarm 6: Pump 2 Alarm 7: Pump 3 Alarm 8: Pump 4 Alarm 9: Pump 5 Alarm 10: Pump 6 Alarm 11: Pump 7 Alarm 12: Pump 8 Alarm 13: Frost 14: Battery Low 15: High water 16: Priority off 17: Extern Alarm 18: Redundancy 19: Plausibility 20: Slave communication 21: Net supply 22: Leakage 23: CAN failure 24: Prepressure sensor 25: External signal 26: Sensor error 2 27: Sensor error 3 28: MOIB failure 29: Temperature Maximum 30: Temperature Minimum 31: Maximum number of pump cycles

Acknowledge

Description	Use this data point to give a receipt for an alarm.
Added	31.000
Access	R
Level	All users
Modbus register	40141
Modbus elements	BOOL

Alarm history index

Description	The error history has a certain number of entries depending on the switch box type (CC 0..35, SC 0..15). To access an entry provide its index here. Than you can read its values in the following registers.
Added	31.000
Access	RW
Level	All users
Modbus register	40142
Modbus data type	UINT16
Modbus scale and unit	1

Alarm history error code

Description	The Error code of the selected error history entry as described in manual.
Added	31.000
Access	R
Level	All users
Modbus register	40143
Modbus data type	UINT16
Modbus scale and unit	0.1

Alarm histogram index

Description	The error histogram has a certain number of entries depending on the number of available errors in panel and applicationand is equal to the number of errors described in manual. To access a bin provide its index here. Than you can read its values in the following registers.
Added	31.000
Access	RW
Level	All users
Modbus register	40147

Modbus data type	UINT16
Modbus scale and unit	1

Alarm histogram error code

Description	The error code as described in manual without leading E of the selected error histogram bin.
Added	31.000
Access	R
Level	All users
Modbus register	40148
Modbus data type	UINT16
Modbus scale and unit	0.1

Alarm histogram error count

Description	The number of occurrence of the error of the selected error histogram bin.
Added	31.000
Access	R
Level	All users
Modbus register	40149
Modbus data type	UINT16
Modbus scale and unit	1