

Parameter list  
Modbus® protocol



# Smart Pump Range

xylem

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# 1 Introduction and Safety

## 1.1 Purpose of this manual

This manual shows and discusses the Modbus® addresses implemented in Smart Pump Range products.

The data managed by the Smart Pump Range unit consist of:

- Parameters: read & write, used to set modes, activate functions and write on the drive
- Information: read only, to acquire values from the drive.




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### CAUTION:

Before using the unit make sure to read and fully understand the Smart Pump Range Use and Maintenance Manual.

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## 1.2 Acronyms

MIN	Minimum
MAX	Maximum
DEF	Default
R	Read only
R/W	Read & Write
UM	Unit of measurement
LSW/MSW	Least Significant Word / Most Significant Word
N.U.	Not used
N.A.	Non accessible

# 2 Modbus® addresses

## 2.1 Data management

The data managed by the Smart Pump Range unit can be accessed considering the Modbus® virtual memory, consisting of Holding Registers for all values.

The Modbus® protocol function codes implemented in Smart Pump Range products are:

- Read Holding Registers (hex code 0x03), to read both Holding Registers representing Parameters and Information
- Write Multiple Registers (hex code 0x10), to write Holding Registers representing the Parameters.

The serial port factory configuration is 9600 baud, 8N1, slave 1.

## 2.2 List of addresses

Address	Menu Index e-HME, e-SVE, VME	Menu Index LNEEE, LNESE	Description	UM	MIN	MAX	DEF
30 [R]	P17	P17	Software version	-	-	-	-
50 [R/W]	P04	N.A.	Start / Stop command 0 = [OFF] 1 = [ON]	-	0	1	0
51 [R/W]	P25	P25	Autostart after switch on 0 = [OFF] 1 = [ON]	-	0	1	1
52 [R/W]	P16	P16	Control mode 0 = [ACT] 1 = [CPP/HCS] 2 = [PPP/MSE] 3 = [MSY]	-	0	3	1
53 [R/W]	P41	P41	Speed set in ACT mode	rpm	min	max	-
54 [R]	P02	N.A.	Current motor speed	rpm	-	-	-
55 [R/W]	N.A.	P40	Pressure UM selection 0 = [BAR] 1 = [PSI]	-	0	1	0
56 [R/W]	P42	P42	Pressure setting for HCS / MSE / MSY / CPP	bar / psi	0	Depending on the type of pump unit	Depending on the type of pump unit
57 [R/W]	P17	P17	Pressure setting for PPP	bar / psi	0	Depending on the type of pump unit	Depending on the type of pump unit
58 [R]	P04	N.A.	Effective Required Value	bar / psi	-	-	-
59 [R/W]	P25	P25	Sensor selection 0 = [No sensor] 1 = [1 differential sensor] 2 = [2 individual sensors]	-	0	2	1

Address	Menu Index e-HME, e-SVE, VME	Menu Index LNEEE, LNESE	Description	UM	MIN	MAX	DEF
60 [R/W]	P16	P16	Bottom scale value for the 4-20 mA pressure sensor 0.0-25.0 bar / 0.0-363 psi	bar x 100 / psi	0	2500 / 363	Depending on the type of pump unit
61 [R/W]	N.A.	P43	Bottom scale value for the - 0-10 V pressure sensor 0.0-25.0 bar / 0.0-363 psi	bar x 100 / psi	0	2500 / 363	Depending on the type of pump unit
62 [R]	P14	P14	Current pressure	bar x 100 / psi	0	-	-
64 [R]	P15	P15	Inverter Current	A	0	-	-
65 [R]	P13	P13	Inverter Voltage	V	0	-	-
66 [R]	P22	P22	Current power	W	0	-	-
67 [R]	P23	P23	Temperature of winding 1	°C	0	255	-
68 [R]	P65	P65	Temperature of winding 2	°C	0	255	-
69 [R]	P66	P66	Temperature of winding 3	°C	0	255	-
70 [R]	P67	P67	Power Module Temperature	°C	0	255	-
71 [R]	P68	P68	Current error	-	-	-	0
72 [R]	N.A.	P43	LSW error bitfield  bit 0: internal communication error bit 1: overcurrent bit 2: DC voltage out of range bit 3: motor step loss bit 4: eeprom corrupted bit 5: power supply voltage out of range bit 6: motor overtemperature bit 7: power module overtemperature bit 8: corrupted factory data bit 9: corrupted memory password bit 10: NTC probe overtemperature bit 11: dry run bit 12: NTC probe error bit 13: rotor seized bit 14: motor not connected bit 15: no water	-	0	65535	0

Address	Menu Index e-HME, e-SVE, VME	Menu Index LNEEE, LNESE	Description	UM	MIN	MAX	DEF
73 [R]	P14	P14	MSW error bitfield bit 16: sensor missing error bit 17: pressure sensor configuration error bit 18: incompatible multipump protocol bit 19: pressure minimum value bit 23: motor selection error	-	0	65535	0
74 [R]	P15	P15	Current alarm	-	-	-	0
75 [R]	P13	P13	LSW alarm bitfield bit 0: EEPROM writing error bit 1: incomplete factory data bit 2: downgrading due to temperature bit 3: invalid eeprom parameter bit 4: no water bit 5: corrupted multipump bus bit 6: multipump communication lost	-	-	-	-
76 [R]	P22	P22	MSW alarm bitfield	-	0	65535	0
77 [R/W]	P23	P23	System password	-	1	999	66
78 [R/W]	P65	P65	Lock Function 0 = [OFF] 1 = [ON]	-	0	1	1
79 [R]	P66	P66	Test Run - Time Start	h	0	100	100
80 [R/W]	P67	P67	Test Run - Speed	rpm	min rpm	max rpm	2000
81 [R/W]	P68	P68	Test Run - Time Duration	s	0	180	10
195 [R/W]	N.A.	P43	Default Values Reload 0 = [No] 1 = [Res]	-	0	1	0
200 [R/W]	P26	P26	Max RPM set	rpm	ACT set	3600	-
201 [R/W]	P27	P27	Smin time	rpm	800	ACT set	-
202 [R/W]	P28	N.A.	Ramp 1	s	1	250	3

Address	Menu Index e-HME, e-SVE, VME	Menu Index LNEEE, LNESE	Description	UM	MIN	MAX	DEF
203 [R/W]	P29	N.A.	Ramp 2	s	1	250	3
204 [R/W]	P30	N.A.	Ramp 3	s	1	999	35
205 [R/W]	P31	N.A.	Ramp 4	s	1	999	35
206 [R/W]	P32	N.A.	Ramp Speed Min Acceleration	s	1	25	2
207 [R/W]	P33	N.A.	Ramp Speed Min Deceleration	s	1	25	2
208 [R/W]	P34	N.A.	Minimum speed configuration 0 = [STP] 1 = [SMI]	-	0	1	Depending on the type of pump unit
209 [R/W]	P35	N.A.	Min S time	s	0	100	0
210 [R/W]	P36	N.A.	Window	%	0	100	10
211 [R/W]	P37	N.A.	Hysteresis	%	0	100	80
212 [R/W]	P03	N.A.	Restart value adjustment	%	0	100	100
213 [R/W]	P45	N.A.	Minimum pressure threshold	bar / psi	0	max	0
214 [R/W]	P46	N.A.	Minimum pressure threshold delay	s	1	100	2
215 [R/W]	P47	N.A.	Auto error reset - Minimum pressure threshold 0 = [dis] 1 = [enb]	0	0	1	1
216 [R/W]	P69	P69	Prevent frequent savings 0 = [no] 1 = [yes]	-	0	1	0
300 [R/W]	P56	N.A.	Maximum number of multipump units	-	1	3	3
301 [R/W]	P57	N.A.	Pump unit switch interval	min	0	250	24
302 [R/W]	P61	N.A.	MSY limit speed	rpm	min	3600	Depending on the type of pump unit
303 [R/W]	P62	N.A.	MSY window	rpm	0		1500
304 [R/W]	P58	N.A.	Actual Value Increase	bar / psi x 100	0	2500 / 36300	35
305 [R/W]	P59	N.A.	Actual Value Decrease	bar / psi x 100	0	25/363	15

Address	Menu Index e-HME, e-SVE, VME	Menu Index LNEEE, LNESE	Description	UM	MIN	MAX	DEF
306 [R/W]	P48	P48	Low water input 0 = [dis] 1 = [ARL] 2 = [err]	-	0	2	0
307 [R/W]	P60	N.A.	Enable Speed	rpm	0	max	Depending on the type of pump unit
308 [R]	P63	N.A.	Priority among network pump units, multipump	-	1	3	-
309 [R]	P64	N.A.	Multipump revision	-	-	-	-
310 [R/W]	P38	N.A.	Speed Lift	rpm	min	3600	min
311 [R/W]	P39	N.A.	Lift Amount	%	-	-	0
1000 [R]	P05-P06	P05-P06	Months / hours of use LSW	-	-	-	-
1001 [R]	P05-P06	P05-P06	Months / hours of use MSW	-	-	-	-
1002 [R]	P07-P08	P07-P08	Months / hours of motor use LSW	-	-	-	-
1003 [R]	P07-P08	P07-P08	Months / hours of motor use MSW	-	-	-	-
5007 [R/W]	P50	P50	BMS protocol 0 = [MOD] 1 = [BAC]	-	0	1	0
5008 [R/W]	P51	P51	BMS port address Modbus® / BACnet®	-	1/0	255/127	1/0
5009 [R/W]	P52	P52	BMS port Baud rate 0 = [4.8] 1 = [9.6] 2 = [14.4] 3 = [19.2] 4 = [38.4] 5 = [56] 6 = [56.7]	-	0	6	1
5010 [R/W]	P54	P54	BMS port parameters 0 = [4.8] 1 = [9.6] 2 = [14.4] 3 = [19.2] 4 = [38.4] 5 = [56] 6 = [56.7]	-	0	6	1







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- 1) The tissue in plants that brings water upward from the roots;
- 2) A leading global water technology company.

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