MODBUS MANUAL for NEXSTEP

R100624

NORME CE
EC RULES(STANDARD EC)
NORMAS DE LA CE

Direttiva Bassa Tensione
Low Voltage Directive
Directiva de baja tensión
} **2014/35/UE**

Direttiva EMC Compatibilità Elettromagnetica
EMC electromagnetic compatibility directive
EMC directiva de compatibilidad electromagnética
} **2014/30/UE**

GENERAL SAFETY INFORMATION

Danger! During an emergency of any nature within the environment where the pump group is installed, it is necessary to immediately turn off the power to the system and disconnect the instrument from the socket!

If particularly aggressive chemical materials are used, it is necessary to scrupulously follow the regulations regarding the use and storage of these substances!

If you install the instrument outside the European Community, comply with local safety regulations!

The manufacturer cannot be held responsible for damage to people or property caused by poor installation or incorrect use!

Attention! Install the instrument so that it is easily accessible whenever maintenance is required! Never obstruct the place where the instrument is located!

The instrument must be slaved to an external control system. In case of lack of water, the dosing must be stopped.

The assistance and maintenance of the instrument and all its accessories must always be carried out by qualified personnel!

Always empty and carefully wash pipes that have been used with particularly aggressive chemical materials! Wear the most suitable safety devices for the maintenance procedure!

Always carefully read the chemical characteristics of the product to be dosed!

All operations must be carried out when the instrument is not connected to the power supply!

The MODBUS protocol

MODBUS is a serial communication protocol created in 1979 by MODICON (a company now part of the Schneider Electric group) to connect its programmable logic controllers (PLCs). AND
has become a *de facto* standard in industrial communication and is currently one of the most widespread connection protocols in the world among industrial electronic devices. The main reason for such a high use of MODBUS compared to other communication protocols is that this is an open and royalty-free protocol.

With the MODBUS protocol we define the format and mode of communication between a "master" that manages the system and one or more "slaves" that respond to queries from the master. Our pump is a "slave".

The device address (ID), data format, and communication baud rate can be set directly from the MODBUS Communication menu from the pumps.
MODBUS allows the connection of a master (e.g. a PC) and various “slaves” (e.g. measurement and control systems). Two versions are available: one for serial interface (RS-232 and RS-485) and one for ETHERNET.

The following operating modes can be distinguished for data transmission:

- MODBUS TCP: ETHERNET TCP/IP communication based on the client/server model
- MODBUS RTU: asynchronous serial transmission via RS-232 or RS-485
- MODBUS ASCII: similar to the RTU protocol except for a different data format used
  relatively rarely

In our case the **operating mode is RTU (asynchronous serial transmission via RS-485).**

MODBUS RTU

MODBUS RTU realizes a “master / slave” serial communication via RS-232 or RS-485. In order to address MODBUS RTU, the serial communication parameters must first be known and/or defined. These parameters include baud rate, parity, and stop bits. The “slave” addresses that must be also come into play here
directed by the "master".

Message format

The message format between the “master” and the “slave” includes:

- The address of the device with which the master established the transaction (address 0 corresponds to a broadcast message sent to all "slave" devices).
- The code of the function that is to be, or has been, executed.
- The data that needs to be exchanged.
- The error control composed according to the CRC16 algorithm.

If a device detects an error in the received message (format, parity or CRC16) or the address does not correspond to an online device, the message is considered invalid and discarded.
A “slave” that detects an error in the message will therefore not perform the action and will not respond to the request.

Data Format

Devices with MODBUS protocol use the following data formats for communication

8N1 format (default): 8 data bits, without any parity check (“No parity”) and with 1 stop bit. 8O1 format: 8 data bits, parity control on even bits (“Odd parity”) and with 1 stop bit.

8E1 format: 8 data bits, parity control on odd bits (“Even parity”) and with 1 stop bit. 8N2 format: 8 data bits, no parity check (“No parity”) and with 2 stop bits.

The polling speed must be equal to or greater than 500ms (milliseconds).

The address

MODBUS transactions always involve the master, which manages the line, and one "slave" at a time (except in the case of broadcast messages).

To identify the recipient of the message, a byte containing the numerical address of the selected device is transmitted as the first character.

Each of the "slaves" will therefore have been assigned a different numerical address that uniquely identifies it.

The eligible addresses are those from 1 to 255.

The address 0, which cannot be assigned to a "slave", placed at the head of the message transmitted by the master indicates that this is "broadcast", i.e. directed to all the "slaves" at the same time. Can only messages that do not require a response to carry out their function, therefore only assignments, can be transmitted as broadcasts.

The function code

The second character of the message transmitted by the master identifies the function that must be performed, to which the "slave" in turn responds with the same code to indicate that the function has been performed.

In our case, the only MODBUS functions that can be used are those shown below:

FUNCTION	DESCRIPTION
03	Reading registers
06	Single register setting
10	Setting up multiple registers

The last two characters of the message contain the cyclic redundancy code (Cyclic Redundancy Check) calculated according to the CRC16 algorithm.

MODBUS Data Addresses

Data Address	Offset	Associated number	GUY
0000- 270E Hex	40001	40001- 49999	R/W

THE MODBUS FUNCTIONS

Below is a detailed description of the MODBUS functions used.

Reading registers (03)

With this function, contiguous blocks of 16-bit internal registers are read from the "slave" device.

This function allows you to request the value of 16-bit registers (words) containing variables
numeric. Broadcast mode is not allowed.

Request

In addition to the address of the "slave" and the function code (03), the message contains the starting address ("Starting Address") expressed on two bytes and the "number of words" to be read also on two bytes. The maximum number of words that can be read is 125.

Example: Request to read the register with address 40001 (the first) from the "slave" with ID 01.

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	CRC (HIGH)	CRC (LOW)
01	03	00	00	00	01	84	0A

Answer

In addition to the address of the "slave" and the function code (03), the response message includes the number of bytes read and the data contained in the read register.
Registers are made up of two bytes each, the first of which contains the most significant part.

Example: Response to the request above.

ID	FUNCTION	Number bytes read	DATE Address 0000 (HIGH)	DATE Address 0000 (LOW)	CRC (HIGH)	CRC (LOW)
01	03	02	00	00	B8	44

Request

Example: Read request from the "slave" with ID 1 of registers from 40001 to 40003.

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	CRC (HIGH)	CRC (LOW)
01	03	00	00	00	03	05	CB

Answer

In addition to the address of the "slave" and the function code (03), the response message includes the number of bytes read and the data contained in the read registers.

Registers are made up of two bytes each, the first of which contains the most significant part.

Example: Response to the request above.

ID	FUNCTION	Number bytes read	DATE Address 0000 (HIGH)	DATE Address 0000 (LOW)	DATE Address 0001 (HIGH)	DATE Address 0001 (LOW)	DATE Address 0002 (HIGH)	DATE Address 0002 (LOW)	CRC (HIGH)	CRC (LOW)
01	03	06	00	00	00	00	00	00	21	75

Function Code (03) – Read pending registers

Request	Function Code	1 byte	0x03
	Starting address	2 bytes	From 0x0000 to 0xFFFF
	Number of registers	2 bytes	1 to 125 (0x01 to 0x7D)

Answer	Function Code	1 byte	0x03
	Number of bytes read	1 byte	2xN
	Register value	2N bytes	“N” is the number of registers

Single register setting (06)

This function allows you to set the value of a single 16-bit register. In addition to the address of the "slave" and the function code (06), the message contains the address of the variable expressed in two bytes and the value that must be assigned. Broadcast mode is allowed. Example of Request (LEVEL ALARM ENABLED and NC CONTACT): set the value 03 on the "slave" with ID 01 of register 40104.

ID	FUNCTION	Address (HIGH)	Address (LOW)	DATE WORD (HIGH)	DATE WORD (LOW)	CRC (HIGH)	CRC (LOW)
01	06	00	67	00	03	78	14

Answer

In addition to the address of the "slave" and the function code (06), the response message contains the address of the variable expressed in two bytes and the value assigned to it.

ID	FUNCTION	Address (HIGH)	Address (LOW)	DATE WORD (HIGH)	DATE WORD (LOW)	CRC (HIGH)	CRC (LOW)
01	06	00	67	00	03	78	14

Setting more than one register (10)

This function allows you to set the value of a consecutive block of 16-bit registers. Broadcast mode is allowed. In addition to the address of the "slave" and code 10, the message contains the starting address, the number of words to write, how many bytes the words are made up of and the value of the registers. In our case it is allowed to write only one word at a time and only words of 2 or 4 bytes.

Since we use the function with code 06 to write 2 bytes, we use this function to write words made up of four bytes.

Example: Set the pump having ID1 in CONSTANT mode (location 40140) at 80,000 L/h

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	Bytes for Words	DATE Word Address 008C (HIGH)	DATE Word Address 008C (LOW)	DATE Word Address 008B (HIGH)	DATE Word Address 008B (LOW)	CRC (HIGH)	CRC (LOW)
01	10	00	8B	00	01	04	00	01	38	80	F9	EF

Answer

In addition to the address of the "slave" and the function code (10), the message includes the starting address and the number of words written.

Example: Response to the request above.

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	CRC (HIGH)	CRC (LOW)
01	10	00	8B	00	01	71	E3

ERROR MANAGEMENT

Two types of errors can occur during transmission, handled differently: errors
transmission and operational errors. Transmission errors are errors that occur if the message sent is compromised during sending and is therefore poorly received. In this case the error is detected by a possible bit parity check, if active in the serial transmission, or by a CRC check. The “slave”
that detects errors of this type in the message considers it invalid, discards the message without considering it and does not respond. However, if the message is correct in its form, without transmission errors, an error could occur in the content of the message itself, such as
a requested function, for any reason, is not executable, or the wrong content is addressed, an operational error occurs. The "slave" device responds to this error with an exception message.
This message consists of the address, the requested function delta code, an error code and the CRC. To indicate that the response is an error notification, the function code is returned with the most significant bit at "1".

The structure of the answer is as follows:

“SLAVE” ADDRESS	FUNCTION	ERROR CODE	CRC (HIGH)	CRC (LOW)

Request to a “slave” with wrong ID
Request

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	CRC (HIGH)	CRC (LOW)
04	03	00	00	00	03	05	93

Answer

The message is considered invalid and there is no response.

Request

Request with wrong CRC

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	CRC (HIGH)	CRC (LOW)
01	03	00	00	00	03	80	BB

Answer

The message is considered invalid and there is no response.

Request

Requests for content that does not exist in the “slave” Address 40566)

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	CRC (HIGH)	CRC (LOW)
01	03	02	35	00	01	95	BC

Response (ILLEGAL DATA ADDRESS)

ID	FUNZ	Exception code	CRC (HI)	CRC (LO)
01	83	02	C0	F1

Request

Requests for content that does not exist in the "slave" (address 40014)

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	CRC (HIGH)	CRC (LOW)
01	03	00	0D	00	03	94	08

Response (ILLEGAL DATA ADDRESS)

ID	Function	Exception queues	CRC (HIGH)	CRC (LOW)
01	83	02	C0	F1

Request (ILLEGAL DATA VALUE).

Attempt to write to a register (address 40100) a value that is not permitted for this address.

ID	FUNCTION	Address (HIGH)	Address (LOW)	DATE WORD (HIGH)	DATE WORD (LOW)	CRC (HIGH)	CRC (LOW)
01	06	00	63	00	04	78	17

Answer

ID	FUNCTION	Exception code	CRC (HIGH)	CRC (LOW)
01	86	03	02	61

Request

Function does not exist

ID	FUNCTION	Starting Address (HIGH)	Starting Address (LOW)	Number of Words (HIGH)	Number of Words (LOW)	CRC (HIGH)	CRC (LOW)
01	08	00	0D	00	01	21	CB

Answer

(ILLEGAL FUNCTION VALUE)

ID	FUNCTION	Exception	CRC (HIGH)	CRC (LOW)
01	80	01	80	00

Exception codes

CODE		DESCRIPTION
01	ILLEGAL FUNCTION VALUE	Non-existent function
02	ILLEGAL DATA ADDRESS	The address referenced by the data field is not a permitted address on the addressed “slave”. Attempt to write to a read-only register.
03	ILLEGAL DATA VALUE	The value to be assigned for the data field is not allowed for this address.
05	BUSY WRITING	n/a

Address	Byte number	Format	Property	Function	Description*
RUNTIME					
ALARMS/WARNING/STAND BY					
40001	2	uint16	R	03	Bit 0: LEVEL WARNING** Bit 1: LEVEL ALARM Bit 2: STAND BY Bit 3: OVERFLOW WARNING Bit 4: OVERFLOW ALARM Bit 5: NO INPUT ALARM Bit 6: ALARM TEMPERATURES Bit 7: HIGH PRESSURE WARNING Bit 8: HIGH PRESSURE LARM 0: No Alarm/No Warning/No Stand by 1: Yes Alarm/Yes Warning/Yes Stand by ***pump in reserve*
DOSAGE					
40002	4	uint32	R	03	HOURLY DOSING Expressed in L/h (Gal/h) with three decimals
40004	4	uint32	R	03	FREQUENCY Motor rotation speed, expressed in %. From 0% to 100% to three decimal places
40006	2	uint16	R	03	mA output Only for pumps with mA output
STATISTICS					
40388	8	uint64	R	03	PARTIAL STATISTICS DOSED Expressed in Liters (Gallons) from 0 Liters to max 999999999.999 Liters (maximum 12 digits, 9 integers and 3 decimals). Quantity dosed from the date of the last statistics reset.
40392	8	uint64	R	03	PARTIAL STATISTICS COUNTER Quantity of product, expressed in Liters (Gallons), passed through the counter since the date of the last statistics reset (maximum 12 digits).
40396	8	uint64	R	03	PARTIAL STATISTICS DOSED IN THE LAST 24H Expressed in Liters (Gallons) with 3 decimal places. Quantity dosed in the last 24 hours.
40400	8	uint64	R	03	PARTIAL STATISTICS COUNTER IN THE LAST 24H Quantity of product, expressed in Liters (Gallons), passed through the meter in the last 24 hours.
40404	2	uint16	R	03	PARTIAL STATISTICS TIME OF LAST RESET (Hours)
40405	2	uint16	R	03	PARTIAL STATISTICS TIME OF LAST RESET (Minutes)
40406	2	uint16	R	03	PARTIAL STATISTICS TIME OF LAST RESET (Seconds)
40407	2	uint16	R	03	PARTIAL STATISTICS DATE OF LAST RESET (Day)

40408	2	uint16	R	03	PARTIAL STATISTICS DATE OF LAST RESET (Month)
40409	2	uint16	R	03	PARTIAL STATISTICS DATE OF LAST RESET (Year)
40410	8	uint64	R	03	TOTAL STATISTICS TOTAL DOSAGE Expressed in Liters (Gallons) from 0 L to a maximum of 999999999.999 L (maximum 12 digits, 9 integers and 3 decimals). Quantity dosed from the date of installation of the pump.
40414	8	uint64	R	03	TOTAL STATISTICS COUNTER Quantity of product, expressed in Lt (Gallon), passed through the meter from the date of installation of the pump (12 digits max).
SETTINGS					
40100	4	uint32	R	03	FLOW Rate of the pump expressed in L/h (Gal/h) with three decimal places.
40102	2	uint16	R	03	SLOW MODE Expressed in %. It can take on values between 30 (Slow mode 30%) to 100 (Slow mode 100%)
40104	2	uint16	R/W	03/06	LEVEL ALARM Bit0 -> 0: Disabled - 1: Enabled Bit1 -> CONTACT 0:NO – 1:NC
40105	4	uint32	R/W	03/10	LEVEL ALARM - RESERVE This field can be set after enabling the level alarm. Expressed in L (Gal), with three decimal places. It can range from 0 (0 L) to 100000 (100,000 L = 1000000 ml).
40108	2	uint16	R/W	03/06	STANDBY Bit0: 0: Disabled - 1: Enabled Bit1: CONTACT 0:NO – 1:NC
40110	2	uint16	R/W	03/06	CONSTANT DOSING WITH EXTERNAL CONTACT Bit0: 0: Disabled - 1: Enabled Bit1: CONTACT 0:NO – 1:NC
40111	4	uint32	R/W	03/10	CONSTANT DOSING WITH EXTERNAL CONTACT Dosing speed with contact enabled expressed in L/h (Gal/h), with three decimals.
40114	2	uint16	R/W	03/06	WATER METER INPUT UNIT OF MEASURE 0: Pulses / Liter (Pulses / Gallon) 1: Liters / Pulses (Gallons / Pulses)
40115	2	uint16	R/W	03/06	WATER METER INPUT VALUE Expressed in Pulses/Liter (Pulses/Gallon) or in Liters/Pulse (Gallon/ Pulse) with one decimal place. If the unit of measurement is Pulses/Litre or Litres/Pulse, this value can vary from 1 to 12000. If the unit of measurement is Gallon/Pulse, the value can vary from 1 to 3710. In the case of Pulses/ Gallon from 1 to 45420.
40117	2	uint16	R/W	03/06	TIMEOUT VAL Expressed in seconds. The value of this field can vary from 1 to 999 sec. The default value is 10 sec.

40419	2	uint16	R/W	03/06	Ritardo degli ingressi Stnad by e Level 0 – Disabilitato 1-Abilitato
40421	2	uint16	R/W	03/06	Anomalia Motore 0 – Warning 1-Allarme
40119	2	uint16	R/W	03/06	OVERFLOW VAL 0: In the event of an overflow alarm, dosing is blocked. 1: In the event of an overflow alarm, dosing is not blocked.
40121	2	uint16	R/W	03/06	UNIT 0: Liters - 1: Gallons
40123	2	uint16	R/W	03/06	DELAY Expressed in min. The value of this field can vary from 0 to 10. The default value is 0.
40125	2	uint16	R/W	03/06	ALARM/WARNING/STANBY OUTPUT Bit0: 0: Output disabled - 1: Output enabled Bit1: CONTACT 0: NO - 1: NC Bit2: WARNING LEVEL 0: not active - 1: active Bit3: LEVEL ALARM 0: not active - 1: active Bit4: STANDBY 0: not active - 1: active Bit5: WARNING OVERFLOW 0: not active - 1: active Bit6: OVERFLOW ALARM 0: not active - 1: active Bit7: NO INPUT ALARM 0: not active - 1: active Bit8: OVERPRESSURE ALARM 0: not active - 1: active
40127	2	uint16	R/W	03/06	mA output*** 0: Disabled 1: output mA equal to input mA (only when the working mode is mA) 2: Instantaneous flow function ****only for pumps with mA output*
40129	4	uint32	R/W	03/10	mA Output as a function of the instantaneous flow rate HIGH VALUE*** flow rate Instantaneous flow rate: lower limit. Expressed in L/h (Gal/h) to three decimal places. It can be set from 0 (0L/h) to the maximum flow rate of the pump. ****only for* *pumps where mA output is a function of the instantaneous flow rate*
40131	4	uint32	R/W	03/10	mA Output as a function of the instantaneous flow rate LOW VALUE flow rate *** Instantaneous flow rate: lower limit. Expressed in L/h (Gal/h) to three decimal places. It can be set from 0 (0L/h) to HIGH VALUE – 1 ****only for pumps where mA output is a function of the instantaneous flow rate*
40133	2	uint16	R/W	03/06	mA Output as a function of the instantaneous flow rate HIGH VALUE*** mA Output when the instantaneous flow rate exceeds the HIGH value. Expressed in mA，with a decimal decimal places. Can be set from 0 to 200 (20.0 mA) ****only* *for pumps where mA output is a function of the instantaneous flow rate*
40134	2	uint16	R/W	03/06	mA Output as a function of the instantaneous flow rate LOW VALUE*** mA Output when the instantaneous flow exceeds the LOW value. Expressed in mA，with a decimal decimal places. Can be set from 0 to (HIGH VALUE -1) mA ****only for pumps where mA output is a function of the instantaneous flow rate*
WORKING MODES					
40136	2	uint16	R/W	03/06	OFF 0: The pump is OFF - 1: The pump is ON
40138	2	uint16	R	03	WORKING METHODS 0: Constant 1: cc per pulse 2: ppm 3: perc

					4: mlq 5: batch 6: volts 7: mA 8: pulse 9: breaks – work 10: weekly 11: undefined 12: external input
40140	4	uint32	R/W	03/10	CONSTANT MODE Quantity to be dosed in constant mode expressed in L/h (Gal/h), with three digits decimals. Ex: 800 is 0.800 L/h or 800 ml
40143	4	uint32	R/W	03/10	CC for Pulse mode (l/h working mode) - fl.oz. for Pulse mode (gal/h working mode) Quantity, with four decimal places, to be dosed expressed in ml or fl.oz for each pulse at input. Ex: 43 is 0.0043ml or fl.oz.
40147	4	uint32	R/W	03/10	MODE ppm Quantity of product to be dosed based on the quantity of incoming water. Expressed in ppm (parts per million) to two decimal places. It can vary from 1 (0.01ppm) to 999999 (9999.99 ppm) the default value is 100 (1.00 ppm)
40149	2	uint16	R/W	03/06	MODE ppm CONCENTRATION Concentration of the product to be dosed. Expressed as a percentage with one decimal place. The value can vary from 1 (0.1%) to 1000 (100.0% pure product). The default value is 100 (10.0%).
40151	4	uint32	R/W	03/10	MODE perc Quantity of product to be dosed based on the quantity of incoming water. Expressed as a percentage with two decimal places. The value can vary from 1 (0.01%) to 10000 (100.00). The default value is 100(1.00%).
40153	2	uint16	R/W	03/06	MODE perc CONCENTRATION Concentration of the product to be dosed. Expressed as a percentage with one decimal place. The value can vary from 1 (0.1%) to 1000 (100.0% pure product). The default value is 100(10.0%).
40155	4	uint32	R/W	03/10	MODE mlq Quantity of product to be dosed according to the quantity of incoming water. Expressed in mlq (milliliters x quintal) with two decimal places. It can vary from 1 (0.01ppm) to 100000 (1000.00 mlq) the default value is 100 (1.00 mlq)
40157	2	uint16	R/W	03/06	MODE mlq CONCENTRATION Concentration of the product to be dosed. Expressed as a percentage with one decimal place. The value can vary from 1 (0.1%) to 1000 (100.0% pure product). The default value is 100(10.0%).
40159	2	uint16	R/W	03/06	MAINTENANCE 0: Disabled - 1: Enabled
40160	2	uint16	R/W	03/06	MAINTENANCE TIMEOUT (hours) Expressed in hours, it can be set to values ranging from 0 to 24. By setting this value to 24 the minute value is set to zero
40161	2	uint16	R/W	03/06	MAINTENANCE TIMEOUT (minutes) Expressed in hours can be set, if the parameter value Timeout hours is less than 24, at values ranging from 0 to 59

40162	4	uint32	R/W	03/10	MAINTENANCE Quantity to dose Expressed in (L/h) (Gal/h) to three decimal places It can be set to values ranging from 1 (1ml) up to the maximum flow rate of the pump
40165	2	uint16	R/W	03/06	VOLT MODE HIGH VALUE Input voltage: upper limit. Expressed in Volts, with one decimal place. Can be set from 0(0V) to 100(10.0V)
40166	2	uint16	R/W	03/06	VOLT MODE LOW VALUE Input voltage: lower limit. Expressed in Volts. Can be set from 0 (0V) to HIGH VALUE – 1
40167	4	uint32	R/W	03/10	VOLT MODE HIGH DOSAGE Product quantity to dose when the input voltage exceeds the HIGH value. Expressed in L/h (Gal/h), with three decimal places. It can be set from 0 to the maximum flow rate of the pump
40169	4	uint32	R/W	03/10	MODE VOLT LOW DOSING Quantity to be dosed when the tension input is less than the LOW value. Expressed in L/h (Gal/h), with three decimal places. It can be set from 0 to the maximum flow rate of the pump
40172	2	uint16	R/W	03/06	mA MODE mA HIGH VALUE Input current: upper limit. Expressed in mA, with one decimal place. This range can be set from 0 (0 mA) to 200 (20.0mA).
40173	2	uint16	R/W	03/06	mA MODE mA LOW VALUE Input current: lower limit. Expressed in mA, with one decimal place. This field can be set from 0 to HIGH VALUE -1
40174	4	uint32	R/W	03/10	mA MODE HIGH DOSING Quantity of product to be dosed when the input current exceeds the HIGH value. Expressed in L/h (Gal/h), with three decimal places. This field can be set from 0 to the maximum flow rate of the pump.
40176	4	uint32	R/W	03/10	mA MODE LOW DOSAGE Quantity of product to be dosed when the input current drops below the LOW value. Expressed in L/h (Gal/h), with three decimal places. This field can be set from 0 to the maximum flow rate of the pump.
40179	2	uint16	R/W	03/06	MODE PULSE PULSE HIGH VALUE Input pulses per minute: upper limit. This range can be set from 0 to 7200 p/m
40180	2	uint16	R/W	03/06	MODE PULSE PULSE LOW VALUE Input pulses per minute: lower limit. This field can be set from 0 to (PULSE HIGH VALUE – 1) p/m

40181	4	uint32	R/W	03/10	PULSE MODE HIGH DOSAGE Quantity to dose when the number of input pulses exceeds the HIGH value. Expressed in L/h (Gal/h), with three decimal places. It can be set from 0 to the maximum flow rate of the pump
40183	4	uint32	R/W	03/10	PULSE MODE LOW DOSING Quantity to dose when the number of input pulses falls below the LOW value. Expressed in L/h (Gal/h), with three decimal places. It can be set from 0 to the maximum flow rate of the pump
40186	2	uint16	R/W	03/06	PAUSE – WORK MODE MINUTES OF WORK The field can be set from 1 to 999 min
40187	2	uint16	R/W	03/06	PAUSE - WORK MODE MINUTES OF PAUSE The field can be set from 1 to 999 min
40188	4	uint32	R/W	03/10	PAUSE - WORK MODE QUANTITY TO BE DOSED Quantity of product to be dosed during the work period. Expressed in L/h (Gal/h), with three decimal places.
40191	4	uint32	R/W	03/10	MODE BATCH EXTERNAL QUANTITY Quantity to be dosed at maximum pump speed. Express the L(Gal) to three decimal places. It can range from 0 L(Gal) to 100,000 L(Gal).
40193	2	uint16	R/W	03/06	MODE BATCH EXTERNAL CONTACT 1: NC - 0: NO
WEEKLY PROGRAMMING					
PROGRAM 1 (P1)					
40195	2	uint16	R/W	03/06	Bit0 -> 1: P1 enabled - 0: P1 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40196	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40197	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40198	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40199	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40200	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.

PROGRAM 2 (P2)					
40203	2	uint16	R/W	03/06	Bit0 -> 1: P2 enabled - 0: P2 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40204	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40205	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40206	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40207	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40208	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 3 (P3)					
40211	2	uint16	R/W	03/06	Bit0 -> 1: P3 enabled - 0: P3 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40212	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40213	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40214	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40215	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40216	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 4 (P4)					
40219	2	uint16	R/W	03/06	Bit0 -> 1: P4 enabled - 0: P4 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40220	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40221	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.

40222	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40223	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40224	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 5 (P5)					
40227	2	uint16	R/W	03/06	Bit0 -> 1: P5 enabled - 0: P5 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40228	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40229	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40230	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40231	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40232	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 6 (P6)					
40235	2	uint16	R/W	03/06	Bit0 -> 1: P6 enabled - 0: P6 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40236	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40237	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40238	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40239	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40240	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.

PROGRAM 7 (P7)					
40243	2	uint16	R/W	03/06	Bit0 -> 1: P7 enabled - 0: P7 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40244	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40245	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40246	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40247	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40248	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 8 (P8)					
40251	2	uint16	R/W	03/06	Bit0 -> 1: P8 enabled - 0: P8 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40252	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40253	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40254	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40255	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40256	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 9 (P9)					
40259	2	uint16	R/W	03/06	Bit0 -> 1: P9 enabled - 0: P9 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40260	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40261	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.

40262	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40263	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40264	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 10 (P10)					
40267	2	uint16	R/W	03/06	Bit0 -> 1: P10 enabled - 0: P10 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40268	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40269	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40270	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40271	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40272	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 11 (P11)					
40275	2	uint16	R/W	03/06	Bit0: 1: P11 enabled - 0: P11 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40276	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40277	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40278	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40279	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40280	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.

PROGRAM 12 (P12)					
40283	2	uint16	R/W	03/06	Bit0: 1: P12 enabled - 0: P12 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40284	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40285	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40286	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40287	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40288	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 13 (P13)					
40291	2	uint16	R/W	03/06	Bit0 -> 1: P13 enabled - 0: P13 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40292	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40293	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40294	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40295	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40296	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 14 (P14)					
40299	2	uint16	R/W	03/06	Bit0 -> 1: P14 enabled - 0: P14 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40300	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40301	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.

40302	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40303	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40304	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 15 (P15)					
40307	2	uint16	R/W	03/06	Bit0: 1: P15 enabled - 0: P15 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40308	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40309	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40310	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40311	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40312	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 16 (P16)					
40315	2	uint16	R/W	03/06	Bit0 -> 1: P16 enabled - 0: P16 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40316	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40317	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40318	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40319	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40320	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.

PROGRAM 17 (P17)					
40323	2	uint16	R/W	03/06	Bit0 -> 1: P17 enabled - 0: P17 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40324	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40325	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40326	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40327	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40328	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 18 (P18)					
40331	2	uint16	R/W	03/06	Bit0 -> 1: P18 enabled - 0: P18 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40332	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40333	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40334	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40335	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40336	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 19 (P19)					
40339	2	uint16	R/W	03/06	Bit0 -> 1: P19 enabled - 0: P19 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40340	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40341	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.

40342	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40343	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40344	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 20 (P20)					
40347	2	uint16	R/W	03/06	Bit0 -> 1: P20 enabled - 0: P20 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40348	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40349	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40350	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40351	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40352	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 21 (P21)					
40355	2	uint16	R/W	03/06	Bit0 -> 1: P21 enabled - 0: P21 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40356	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40357	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40358	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40359	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40360	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.

PROGRAM 22 (P22)					
40363	2	uint16	R/W	03/06	Bit0 -> 1: P22 enabled - 0: P22 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40364	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40365	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40366	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40367	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40368	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 23 (P23)					
40371	2	uint16	R/W	03/06	Bit0 -> 1: P23 enabled - 0: P23 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40372	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40373	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.
40374	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40375	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40376	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.
PROGRAM 24 (P24)					
40379	2	uint16	R/W	03/06	Bit0 -> 1: P24 enabled - 0: P24 disabled Bit1 -> Sunday 1: dosing ON - 0: dosing OFF Bit2 -> Monday 1: dosing ON - 0: dosing OFF Bit3 -> Tuesday 1: dosing ON - 0: dosing OFF Bit4 -> Wednesday 1: dosing ON - 0: dosing OFF Bit5 -> Thursday 1: dosing ON - 0: dosing OFF Bit6 -> Friday 1: dosing ON - 0: dosing OFF Bit7 -> Saturday 1: dosing ON - 0: dosing OFF
40380	2	uint16	R/W	03/06	DOSAGE START (Hours) It can be set from 0 to 23.
40381	2	uint16	R/W	03/06	START DOSING (Minutes) It can be set from 0 to 59.

40382	2	uint16	R/W	03/06	DOSING DURATION (Hours) It can be set from 0 to 24.
40383	2	uint16	R/W	03/06	DOSING DURATION (Minutes) It can be set from 0 to 59.
40384	4	uint32	R/W	03/10	QUANTITY TO BE DOSED Expressed in L (Gal) with three decimal places.

Note: for the minimum and maximum values that can be set, refer to the pump operating manual.

Disposal of end-of-life equipment by users

This symbol warns you not to dispose of the product with normal waste. Respect human health and the environment by taking discarded equipment to a designated collection center for the recycling of electronic and electrical equipment. For further information visit the online site.

All the materials used for the construction of the dosing pump and for this manual can be recycled and thus help maintain the incalculable environmental resources of our planet. Do not disperse harmful materials into the environment! Find out from the competent authority about the recycling programs for your area!