

**S311D-XX-L / S311D-XX-H Line**  
Advanced Digital Indicators-Totalizers  
4, 6, 8, 11 Digits Display

**1. GENERAL SPECIFICATIONS**

- Universal opto isolated digital input; admitted types: reed, npn (2 wires or 24 V), pnp (24 V), NAMUR, photoelectric, Hall, 24 V input, TTL, variable reluctance.
- Digital input signal frequency measurement from 0.00015 Hz to 10 kHz.
- Increment or decrement totalizing of the digital input signal.
- View of the frequency measurement and/or totalized value.
- Programmable retransmission of the input value frequency by the isolated analog output (voltage or active/passive current).
- Retransmission of the totalized value by the isolated digital output (Open Collector).
- Totalizer value is saved on non-volatile memory.
- Filter programmable at 20 levels to stabilise reading.
- Totalizer reset by auxiliary digital input, buttons pressure or Modbus register.
- 4, 6, 8 or 11 (4+7) Digits display.
- In case of optional card use, two relay alarms are activable on the input measurement frequency (maximum, minimum, automatically resettable or not).
- Alarms status visible through two leds on the frontal panel.
- RS485 serial communication with MODBUS RTU protocol (by optional board), maximum 32 nodes.
- Two relay outputs (available on the optional card) for alarms signalling.
- Easy navigation on the programming Menu by three buttons on the frontal panel.
- Quick configuration of the alarm thresholds by the **Quick Alarms Menu**.
- Display contrast settable.
- Very Low Frequency Mode (VLF) automatically set if  $f_{max} < 1\text{ Hz}$ .

**2. TECHNICAL SPECIFICATIONS**

Power Supply:	Code S311D-XX-L: 10-40 Vdc, 19-28 Vac 50-60 Hz, max 3 W. Code S311D-XX-H: 85-265 Vdc 50-60 Hz, max 3 W.
Digital Input:	- Reed - npn 2 wires - npn 24 V (3 wires) - pnp 24 V (3 wires) - NAMUR - Photoelectric - Hall - 24 V Input - TTL - Variable Reluctance Max 7 mA
Absorbed Current:	28 Vdc 17 Vdc
V <sub>MAX</sub> Sensors Power Supply:	0.00015 Hz - 10 kHz < 0.05 %
Frequency Range:	Generated Current: 0 - 20 mA, max load resistance: 500 Ω
Frequency Resolution:	Voltage: 0 - 10 V, min load resistance: 1 kΩ
Analog Output:	Configurable Start and Full scale values. Resolution: 2 A / 1 mV.

SENECA MI001503-E ENGLISH - 1/20

Digital Output :	Type: Open Collector, Imax: 50 mA, Vmax: 30 V.
Relay output :	Capacity: 8 A / 250 VAc (available only by the optional board).
Auxiliary digital input :	Opto isolated, Vmin: 10 V, Vmax: 30 V (available only by the optional board).
Error of Voltage / Current output (referred to max measuring range):	Calibration Error: 0.1 % Thermal Coefficient: 0.01 %/K Linearity error: 0.05 % EMI (electromagnetic disturbance): < 1 %.
Response Time:	5 ms.
Environmental Conditions:	Temperature: -10 - +60°C Humidity min: 30%, max 90% at 40°C non condensing. Storage Temperature: -20 - +85°C.
Isolation:	1500 Vac among each pair of ports (included the optional card ports).
Connections:	- Removable screw terminals, 3.5 mm / 5.08 mm pitch. - Three buttons for menu navigation.
Protection:	IP65 (on the frontal with the apposite furnished seal).
Dimensions (L x W x H):	98.2 x 88.5 x 48 mm
Standards:	EN61000-6-4/2002-10 (electromagnetic emission, industrial environment). EN61000-6-2/2006-10 (electromagnetic immunity, industrial environment). EN61010-1/2001 (safety). All circuits must be isolated from the other circuits under dangerous voltage with double isolation. The power supply transformer must comply with EN60742: "Isolated transformers and safety transformers".

**3. FUNCTIONING DESCRIPTION**

The digital input frequency measurement or the totalizer value is translated into an analog or digital output signal.

The frequency value or as an alternative the totalizer value is displayed; on the 11 (4+7) digits model, both the values are simultaneously displayed (4 digits: frequency value, 7 digits: totalizer value). The values are also available via Modbus RTU protocol upon query by RS485 bus (by the optional card).

**3.1 Setting Modalities**

All the parameters of the instrument may be set by the **Programming Menu** or RS485 (by the optional card). The alarms thresholds may be quickly set by the **Quick Alarm Menu**. Besides the Z-NE33 software has been developed for the programming and the configuration of the module (consult the web site www.seneca.it).

**3.2 Retransmission Modalities**

The instrument allows the following retransmission modalities:

**Analog Output:** The digital input frequency measurement is translated into an analog output signal (voltage or current).

SENECA MI001503-E ENGLISH - 2/20

**3.7 Password for access to the menu**

It is possible to enable the protection of the **Programming Menu** by password. The **Quick Alarm Menu** is instead password free.

**4. BUTTONS AND TERMINALS POSITION**

FRONTAL PANEL: BUTTONS / LEADS

REAR SIDE: TERMINALS

RS485-Aux. Dig. Input Relay 2 Relay 1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Power Supply Output Dig. Input

**5. ELECTRICAL CONNECTIONS**

**POWER SUPPLY:** Verify the code on the label applied to the indicator.

Code S311D-XX-L Code S311D-XX-H

10 + 40 Vdc 3.0 W 1 19 + 28 Vdc 3.0 W 2A

85 + 265 Vdc 3.0 W 2B

**DIGITAL INPUT**

Reed nnp 2 wires nnp 24 V (3 wires) pnp 24 V (3 wires) NAMUR

Photoelectric Hall 24 V Input TTL Input Variable Reluctance

The 17 Vdc internal power supply for the sensors, is available by 7 (+) and 10 (-) terminals.

**DIGITAL OUTPUT**

Voltage Generated Current Ext. Power Supply

Active Output (powered) Unpowered passive output to be connected to active inputs.

Imax=I<sub>V</sub>R=50 mA

SENECA MI001503-E ENGLISH - 3/20

**OPTIONAL BOARD CONNECTIONS**

Relay Output 1 (8 A/250 Vac) Relay Output 2 (8 A/250 Vac)

N.C. N.C. N.C.

N.A. N.A. N.A.

Com. Com. Com.

**Example of Totalizer Reset by the auxiliary digital input, internally supplied by the module**

17 7 10 18

SENECA MI001503-E ENGLISH - 4/20

**Parameters settable from Menu : P.L.L.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
dP <sub>1</sub>	Decimal Point position in Hi-F	0 = no decimal point (ex: 00009999) 1 = first digit (ex: 000099.99) 2 = second digit (ex: 00009.999) 3 = third digit (ex: 00009.999) 4 = fourth digit (ex: 0000.9999, only for 6 and 8 digits models)	0 = No decimal Point

SENECA MI001503-E ENGLISH - 5/20

**Parameters settable from Menu : P.L.L.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
SEt1	Alarm 1 Threshold	Value referred to the displayed frequency value (decimal point set by dP <sub>d</sub> ). Settable value in the following ranges:	500
SEt2	Alarm 2 Threshold	Same as SEt1	1000
HYS1	Alarm 1 Hysteresis	Display Digits Number: 4, 6, 8, 11 (4+7) Min. Limit: -1999, -1999999, -19999999, -199999999 Max. Limit: 9999, 999999, 9999999, 99999999	10
HYS2	Alarm 2 Hysteresis	Same as HYS1	10
LYP1	Alarm 1 Type	0 = Alarm disabled 1 = Alarm on the minimum threshold 2 = Alarm on the maximum threshold (the reset is not automatic) 3 = Retained alarm on the minimum threshold (the reset is not automatic) 4 = Retained alarm on the maximum threshold (the reset is not automatic)	0: Al 1 disabled
LYP2	Alarm 2 Type	Same as LYP1	0: Al 2 disabled
RLY1	Relay 1: N.O./N.C.	Relay Functioning: 0 = normally opened relay (N.O.) 1 = normally closed relay (N.C.)	0: N.O.
RLY2	Relay 2: N.O./N.C.	Same as RLY1	0: N.O.

SENECA MI001503-E ENGLISH - 6/20

**Parameters settable from Menu : C.O.N.F.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
FUnC	Indicator Functioning Type	0 = function of frequency measurement and totalizer view. 1 = only function of frequency measurement value view. 2 = only function of totalizer view.	0: Freq. and Tot.
IR <sub>ES</sub>	Enables the reset of the totalizer by buttons and auxiliary digital input.	0 = enables the reset of the totalizer from panel and auxiliary digital input. 1 = disables the reset of the totalizer from panel and auxiliary digital input.	0: Enabled
PRSS	Enables the Password for the access to menu	Setting a value different from 5477, the password (always 5477) will be required at the start of the menu.	5477: Password disabled

SENECA MI001503-E ENGLISH - 7/20

**Parameters settable from Menu : S.C.A.L.L.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
LO-d	Start scale of frequency measurement view	Value displayed if the measured frequency is 0. Value on the following ranges: Display Digits Number: 4, 6, 8, 11 (4+7) Min. Limit: -1999, -199999, -1999999, -19999999 Max. Limit: 9999, 99999, 999999, 9999999	0
HI-d	Full scale of frequency measurement view	Value displayed if the measured frequency is Hi-F. Value on the following ranges: Display Digits Number: 4, 6, 8, 11 (4+7) Min. Limit: -1999, -199999, -1999999, -19999999 Max. Limit: 9999, 99999, 999999, 9999999	1000
dP-d	Decimal Point position on frequency measurement view	0 = no decimal point (ex: 12345678) 1 = first digit (ex: 1234567.8) ... N display digits-1 11 digits models (4 + 7): max number of decimal digits equal to 3.	0 = No decimal point
FLt	Filter level	0 = no filter 1 - 20	3
RuI	Number of samples on which the frequency average is calculated.	Selectable Values: 1 - 10.	1

SENECA MI001503-E ENGLISH - 8/20

**Parameters settable from Menu : O.U.E.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
LO-t	Frequency Display Value associated to the minimum value of the output.	Limits for the scaling of the retransmitted output. Decimal point set by dP <sub>d</sub> . Settable values on the following limits: Display Digits Number: 4, 6, 8, 11 (4+7) Min. Limit: -1999, -199999, -1999999, -19999999 Max. Limit: 9999, 99999, 999999, 9999999	0
HI-t	Frequency Display Value associated to the maximum value of the output.	Same as LO-t	1000
LYP	Retransmitted output type	1 = 0 - 10 V 2 = 4 - 20 mA 3 = 0 - 20 mA 4 = totalizer digital output	2: 4 - 20 mA

SENECA MI001503-E ENGLISH - 9/20

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**4. BUTTONS AND TERMINALS POSITION**

FRONTAL PANEL: BUTTONS / LEADS

REAR SIDE: TERMINALS

RS485-Aux. Dig. Input Relay 2 Relay 1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Power Supply Output Dig. Input

**5. ELECTRICAL CONNECTIONS**

**POWER SUPPLY:** Verify the code on the label applied to the indicator.

Code S311D-XX-L Code S311D-XX-H

10 + 40 Vdc 3.0 W 1 19 + 28 Vdc 3.0 W 2A

85 + 265 Vdc 3.0 W 2B

**DIGITAL INPUT**

Reed nnp 2 wires nnp 24 V (3 wires) pnp 24 V (3 wires) NAMUR

Photoelectric Hall 24 V Input TTL Input Variable Reluctance

The 17 Vdc internal power supply for the sensors, is available by 7 (+) and 10 (-) terminals.

**DIGITAL OUTPUT**

Voltage Generated Current Ext. Power Supply

Active Output (powered) Unpowered passive output to be connected to active inputs.

Imax=I<sub>V</sub>R=50 mA

SENECA MI001503-E ENGLISH - 10/20

**Parameters settable from Menu : I.N.P.E.**

Symbol Parameter	Parameter Name	Description and setting range	Default Value
LYP	Input type	1 = Reed 2 = npn 2 wires 3 = npn 24 V (3 wires) 4 = pnp 24 V (3 wires) 5 = NAMUR 6 = Photoelectric 7 = Hall 8 = 24 V Input 9 = TTL Input 10 = Variable Reluctance	3: nnp 24 V (3 wires)
HI-F	Full Scale Value (Hz)	Full scale value of the frequency measurement. It defines also the frequency value of the digital input signal, associated to the display maximum value (Hi-d).	1000 Hz

SENECA MI001503-E ENGLISH - 11/20

**Parameters settable from Menu : O.U.E.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
LO-t	Frequency Display Value associated to the minimum value of the output.	Limits for the scaling of the retransmitted output. Decimal point set by dP <sub>d</sub> . Settable values on the following limits: Display Digits Number: 4, 6, 8, 11 (4+7) Min. Limit: -1999, -199999, -1999999, -19999999 Max. Limit: 9999, 99999, 999999, 9999999	0
HI-t	Frequency Display Value associated to the maximum value of the output.	Same as LO-t	1000
LYP	Retransmitted output type	1 = 0 - 10 V 2 = 4 - 20 mA 3 = 0 - 20 mA 4 = totalizer digital output	2: 4 - 20 mA

SENECA MI001503-E ENGLISH - 12/20

**Parameters settable from Menu : O.U.E.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
LO-t	Frequency Display Value associated to the minimum value of the output.	Limits for the scaling of the retransmitted output. Decimal point set by dP <sub>d</sub> . Settable values on the following limits: Display Digits Number: 4, 6, 8, 11 (4+7) Min. Limit: -1999, -199999, -1999999, -19999999 Max. Limit: 9999, 99999, 999999, 9999999	0
HI-t	Frequency Display Value associated to the maximum value of the output.	Same as LO-t	1000
LYP	Retransmitted output type	1 = 0 - 10 V 2 = 4 - 20 mA 3 = 0 - 20 mA 4 = totalizer digital output	2: 4 - 20 mA

SENECA MI001503-E ENGLISH - 13/20

**Parameters settable from Menu : b.u.S.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
Addr	MODBUS Address	Settable values: from 1 to 255.	1
dEL	Delay on the answer	Number of pauses of 6 characters each to be entered between the end of the Rx message and the start of the Tx. Settable values: 0, 255.	0: No Delay
BRUD	Serial communication speed	Serial communication speed in baud: 0 = 1200 1 = 2400 2 = 4800 3 = 9600 4 = 14400 5 = 19200 6 = 38400 7 = 57600	6: 38400

SENECA MI001503-E ENGLISH - 14/20

**Parameters settable from Menu : S.Y.S.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
CONt	Display Contrast	Values from 1 (minimum contrast) to 20 (maximum).	10
UPdn	Totalizer type: UP-counter or DOWN-counter	0 = the totalizer increases of a unit at each rising edge of the digital input. 1 = the totalizer decreases of a unit at each rising edge of the digital input.	0: UP
dFLt	Default Settings	1 = Overwrite the set values with the default values.	

SENECA MI001503-E ENGLISH - 15/20

**Parameters settable from Menu : E.O.E.**

Parameter Symbol	Parameter Name	Description and setting range	Default Value
rREt	Totalizer Reducing Ratio	It sets the value the totalizer will be divided for. Admitted Values: 1 - 250.	1
dP-t	Decimal point position on the totalizer view.	0 = no decimal point (ex: 123456) 1 = first digit (ex: 12345.6) 2 = second digit (ex: 1234.56) ... N display digits-1. 11 digits models (4 + 7): max number of decimal digits equal to 6.	0: No decimal point

SENECA MI001503-E ENGLISH - 16/20

**9. SUMMARY OF BUTTONS ACTIONS (in view mode)**

On the following table we give a summary of the actions which may be performed during the view phase (not programming phase). To effectively execute the actions, it is necessary to press the buttons for some seconds.

	Access to Programming Menu		Access to Quick Alarms Menu
	By pressing the button for some seconds and if FUnC=0 has been set, the indicator switches to the frequency view (except 11 digits model).		By pressing the button for some seconds and if FUnC=0 has been set, the indicator switches to the totalizer view (except 11 digits model).
	Retained Alarms reset.		Totalizer Reset (if this functionality has been enabled by setting IR <sub>ES</sub> =0).

SENECA MI001503-E ENGLISH - 17/20

**12.2 Holding Registers**

The 16-bit Holding Registers have the following structure:

Most significant Bit Bit Index Least significant bit

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

Word (16 bits): MODBUS Register

In the table the notation Bit [x:y] indicates all bits from x to y. For example Bit [2:1] indicates bit 2 and bit 1, and serves to illustrate the meaning of the various united combinations of the values of the two bits. Default values are indicated with the \* symbol.

REGISTER	Description	IND.	R/W
MACHINE ID	Bit [15:8]: module ID (38 decimal) Bit [7:0]: external firmware revision	40001	R
FW_CODE	Register containing the internal code of the firmware.	40002	R
TYP_INP/AVI	Register for the setting of the input type and of the samples number on which the frequency average is calculated.	40003	R/W
Bit [15:8]	Set the digital input type: 1: Reed 2: npn 2 wires 3: npn 24 V (3 wires) 4: pnp 24 V (3 wires) 5: NAMUR 6: Photoelectric 7: Hall Sensor 8: 24 V Input 9: TTL Input 10: Variable reluctance		
Bit [7:0]	Set the samples number on which the frequency measurement average value will be calculated. Admitted Values: 1-10.		
HI_D_LONG_MSW	Full Scale value of frequency measurement view (Most significant word).	40004	R/W
Bit [15:0]	Set the full scale value of the frequency measurement view scale (integer, most significant word); display value associated to HI-F value (40009-10) of the input frequency. The decimal point on the set integer value is given by dP <sub>d</sub> (40008). Default: 1000. Minimum Value (depending on the digits number): 4 Digits: -1999 6 Digits: -199999 8 Digits: -1999999 11 (4+7) Digits: -19999999 Maximum Value (depending on the digits number): 4 Digits: 9999 6 Digits: 999999 8 Digits: 9999999 11 (4+7) Digits: 99999999		
HI_D_LONG_LSW	Full Scale value of frequency measurement view (Least significant word).	40005	R/W

SENECA MI001503-E ENGLISH - 18/20

LO_D_LONG_MSW	Start Scale value of frequency measurement view (Most significant word).	40006	R/W
Bit [15:0]	Set the start scale value of the frequency measurement view scale (integer, most significant word); display value associated to a null input frequency; the decimal point on the set integer value is given by dP <sub>d</sub> (40008). Default: 0. The limits are the same of HI_D_LONG (40004-5).		
LO_D_LONG_LSW	Start Scale value of frequency measurement view (Least significant word).	40007	R/W
DIP_D/DP_IN/DP_TOT	Decimal point position on the frequency, HI-F parameter and totalizer values.	40008	R/W
Bit [15:12]	Not used.		
Bit [11:8]	Decimal point position on the view of the frequency measurement (dP <sub>d</sub> ): 0* = no decimal point (ex: 12345678), 1 = first digit (ex: 1234567.8), 2 = second digit ... N display digits-1. 11 digits (4+7): maximum number of decimal digits equal to 3.		
Bit [7:4]	Decimal point position on HI-F parameter (40009-10) (dP <sub>IN</sub> ): 0* = no decimal point (ex: 12345678), 1 = first digit (ex: 1234567.8), 2 = second digit ... Maximum number of decimal digits depending on the display digits number: 4 digits: 3, 6 digits: 4, 8 digits: 4, 11 digits (3+7): 3		
Bit [3:0]	Decimal point position on the totalizer view (dP <sub>TOT</sub> ): 0* = no decimal point (ex: 12345678), 1 = first digit (ex: 1234567.8), 2 = second digit ... N display digits-1. 11 (4+7) digits indicators: maximum number of decimal digits equal to 6.		
HI-F_LONG_MSW	Full Scale of frequency measurement in Hz (Most significant Word).	40009	R/W
Bit [15:8]	Full scale of frequency measurement in Hz (integer, most significant word); associated to the view frequency full scale HI_D_LONG (40004-5). The decimal point on the set integer value is decided by dP <sub>IN</sub> (40008). Default: 1000. The maximum and minimum limits are the same of HI_D_LONG (40004-5).		

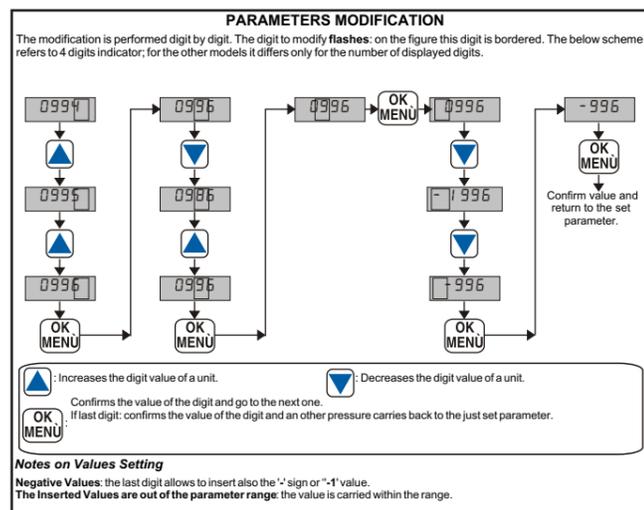
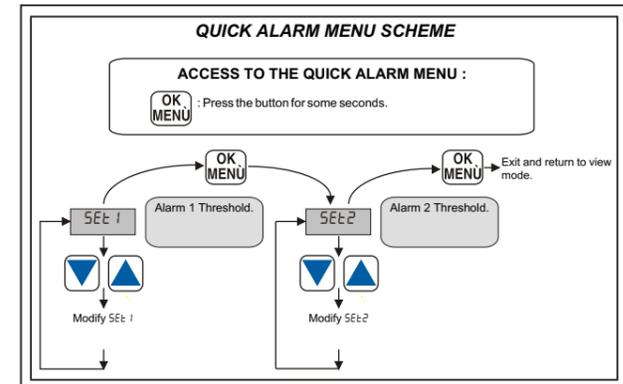
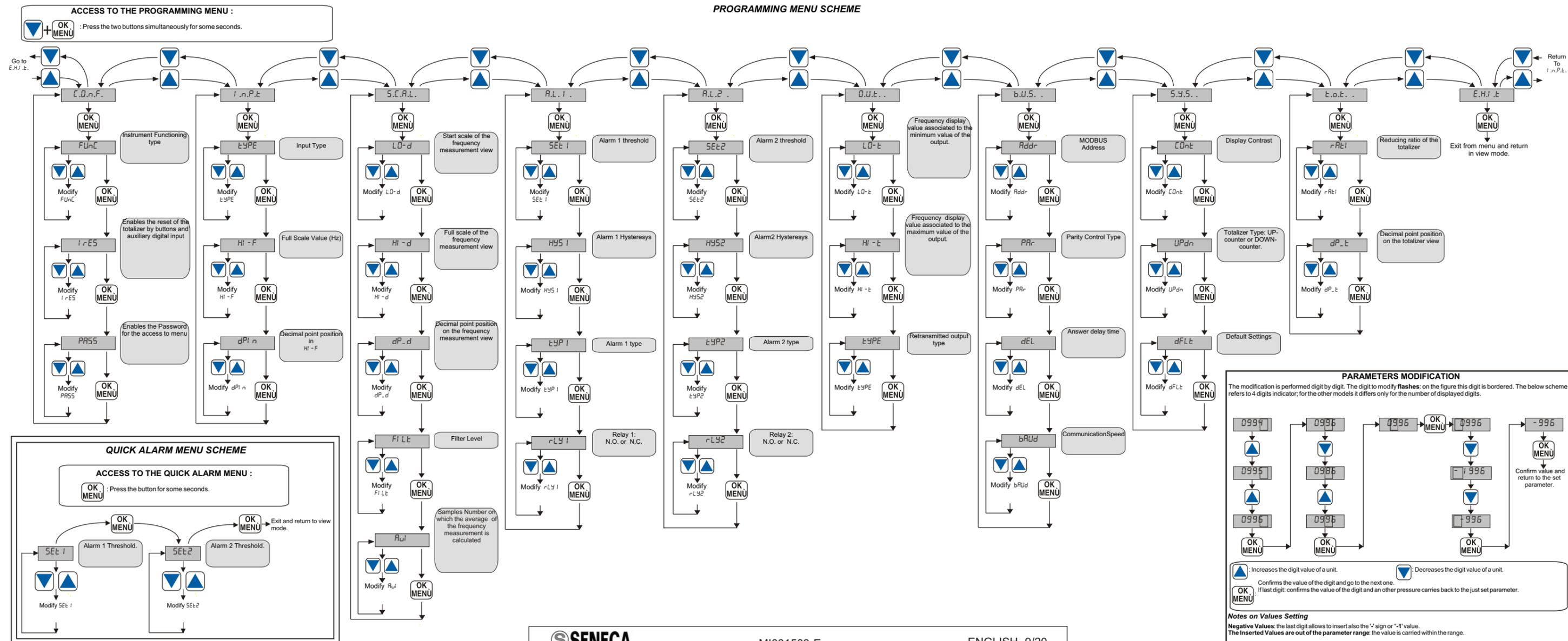
SENECA MI001503-E ENGLISH - 19/20

HI-F_LONG_LSW	Full scale of frequency measurement in Hz (Least significant Word).	40010	R/W
SET1_LONG_MSW	Alarm 1 Threshold (most significant word).	40011	R/W
Bit [15:0]	Alarm 1 threshold: value referred to the frequency view scale but without decimal point. For example if the value referred to the view scale is 20.0 set 200. See HI_D_LONG (40004-5) for the maximum and minimum limits of the parameter. Default: 500.		
SET1_LONG_LSW	Alarm 1 Threshold (least significant word).	40012	R/W
HYS1_LONG_MSW	Alarm 1 Hysteresis (most significant word).	40013	R/W
Bit [15:0]	Alarm 1 hysteresis. Value referred to the frequency view scale but without decimal point. For example if the value referred to the view scale is 10.00 set 1000. See HI_D_LONG (40004-5) for the maximum and minimum limits of the parameter. Default: 10.		
HYS1_LONG_LSW	Alarm 1 Hysteresis (least significant word).	40014	R/W
SET2_LONG_MSW	Alarm 2 Threshold (most significant word).	40015	R/W
Bit [15:0]	Alarm 2 threshold: value referred to the frequency view scale but without decimal point. For example if the value referred to the view scale is 20.0 set 200. See HI_D_LONG (40004-5) for the maximum and minimum limits of the parameter. Default: 1000.		
SET2_LONG_LSW	Alarm 2 Threshold (least significant word).	40016	R/W
HYS2_LONG_MSW	Alarm 2 Hysteresis (most significant word).	40017	R/W
Bit [15:0]	Alarm 2 hysteresis. Value referred to the frequency view scale but without decimal point. For example if the value referred to the view scale is 10.00 set 1000. See HI_D_LONG (40004-5) for the maximum and minimum limits of the parameter. Default: 10.		
HYS2_LONG_LSW	Alarm 2 Hysteresis (least significant word).	40018	R/W
TYP_AL1/TYP_AL2	Setting of alarms functioning.	40019	R/W
Bit [15:8]	Set the Alarm 1 functioning: 0* = Alarm disabled 1 = Alarm on the minimum threshold 2 = Alarm on the maximum threshold 3 = Retained alarm on the minimum threshold (reset is not automatic) 4 = Retained alarm on the maximum threshold (reset is not automatic)		

SENECA MI001503-E ENGLISH - 20/20

Bit [7:0]	Set the Alarm 2 functioning: 0* = Alarm disabled 1 = Alarm on the minimum threshold 2 = Alarm on the maximum threshold 3 = Retained alarm on the minimum threshold (reset is not automatic) 4 = Retained alarm on the maximum threshold (reset is not automatic)		
HI_T_LONG_MSW	Displayed frequency value corresponding to the maximum output value (most significant value).	40020	R/W
Bit [15:0]	Displayed frequency value corresponding to retransmitted output maximum value. Set the value referred to the view scale but without decimal point. Example: if the value referred to the view scale is 10.0, set 100. The maximum and minimum limits are the same of HI_D_LONG (40004-5).		
HI_T_LONG_LSW	Displayed frequency value corresponding to the maximum output value (least significant value).	40021	R/W
LO_T_LONG_MSW	Displayed frequency value corresponding to the minimum output value (most significant value).	40022	R/W</

PROGRAMMING MENU SCHEME



7. SETTABLE VALUES FOR MULTIPLE CHOICE PARAMETERS

The various options for the multiple choice parameters are listed below. Default values are indicated with the \* symbol.

7.1 C.O.n.F. (FUNCTIONING CONFIGURATION)

**FUnC**  
Selects the functioning type:  
0\* = function of frequency value and totalizer value view.  
1 = only function of frequency value view.  
2 = only function of totalizer view.  
**IrES**  
Enables the reset of the totalizer by panel and auxiliary digital input:  
0\* = enabled.  
1 = disabled.

7.2 I.n.P.t. (DIGITAL INPUT)

**tYPE**  
Selects the input type among the following:  
1 = Reed  
2 = npn 2 wires  
3\* = npn 24 V (3 wires)  
4 = pnp 24 V (3 wires)  
5 = NAMUR  
6 = Photoelectric  
7 = Hall  
8 = 24 V Input  
9 = TTL Input  
10 = Variable Reluctance

7.3 S.C.R.L. (DISPLAYED VALUE SETTING)

**FiLt**  
It sets the filter level. Admitted values:  
0 = no filter  
1 - 20. Default: 3.

7.4 R.L.1./R.L.2. (ALARM 1 AND ALARM 2 SETTING)

**tYPE 1 / tYPE 2**  
Sets the alarm type:  
0\* = Disabled Alarm  
1 = Alarm on the minimum threshold  
2 = Alarm on the maximum threshold  
3 = Retained alarm on the minimum threshold (reset is not automatic)  
4 = Retained alarm on the maximum threshold (reset is not automatic).

0\* = normally opened relay  
1 = normally closed relay.

7.5 O.U.t. (RETRANSMITTED OUTPUT SETTING)

**tYPE**  
Sets the type of the retransmitted output:  
1 = 0 - 10 V output  
2\* = 4 - 20 mA output  
3 = 0 - 20 mA output  
4 = totalizer digital output.

7.6 b.U.S. (RS485 SETTING)

**Addr**  
Selects the slave Modbus address. Values from 1 to 255. Default: 1.  
**PAR**  
Selects the parity control of the serial communication:  
0\* = None  
1 = Even  
2 = Odd.  
**dEL**  
Sets the response delay time. Values: 0 - 255. 0\* = no delay, 1 = 1 pause, etc.  
**bAUd**  
Sets the Baudrate :

7.7 S.Y.S. (SYSTEM)

**COnt**  
Sets the display contrast: values from 1 (minimum contrast) to 20 (maximum contrast). Default: 10.  
**UPdn** = 1200  
3 = 9600  
6\* = 38400  
Totalizer Type: UP-counter or DOWN-counter  
7 = 57600  
0\* = The totalizer increases of 0.01 at each rising edge of the digital input.  
1 = The totalizer decreases of a unit at each rising edge of the digital input.

7.8 t.o.t. (TOTALIZER SETTING)

**rReI**  
Totalizer reducing ratio: value for which the totalizer will be divided.  
Admitted Values: 1..250. Default: 1.

7.8 d.F.L.t. (DEFAULT SETTING)

1 = Default setting for all the parameters.

rLY 1 / rLY 2  
Sets the functioning of the correspondent relay (if optional card):



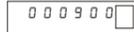
MI001503-E

ENGLISH -9/20

8. SETTING EXAMPLES

8.1 Modification parameters examples  
We are going to illustrate an example of 'Hi - d' parameter modification for a 6 digits model. In this example the digit to modify, that in the real case flashes, is bordered:

Once the parameter to modify has been selected, the set value is for example:



The pressure of the DOWN button entails:



DOWN has brought the digit to the maximum value. Now the pressure of OK/MENU buttons entails the position shift of the digit to modify:



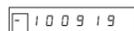
The pressure of the UP button entails:



that is the digit has been increased of a unit. To set a negative value, place on the most significant digit by subsequent pressures of OK/MENU button :



By pressing the DOWN button:



The last digit is brought to the most negative value: -1. By pressing the DOWN button :



Now the minus sign is obtained replacing the first non-useful zero of the set value. By pressing the OK/MENU button the set value is confirmed:



A further pressure of the OK/MENU button, entails the return to the voice correspondent to the just modified parameter:

