USER MANUAL

ZC-SG

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MI002751

Seneca Z-PC Line module: **ZC-SG**

The ZC-SG module allows to manage the load cell signals and to process the weight value, with two types of communication: CANopen protocol, ModBUS protocol (RS232 serial).

General characteristics

Hardware

- Sampling frequency settable from 12,53 Hz to 151,71 Hz.
- 1500 VAC isolation amongst inputs, power supply and CAN interface.
- Protection against ESD discharge up to 4 kV.
- Adjustable rejection at 50 and 60Hz.
- Strain gauge directly powered by the instrument.
- Ratiometric measurement.
- Simplified power supply and serial bus wiring by means of the bus housed in the DIN rail.
- 1 to 64mV/V sensitivity, settable by software for real/integer values.

Software

- Load cell calibration with known weight
- Load cell calibration is not necessary if the load cell sensibility is known.
- Configurable digital I/O.
- Stable weight indication via digital output / Modbus register / PDO
- Remote writing of the tare in volatile and/or non volatile memory through digital input / CAN commands.
- Led Indications: Power Supply, CAN communication, MODBUS-RTU communication, Inputs fault.
- Alarm generated when programmable threshold is exceeded.
- Measurement stabilization through a programmable number of samples, ±30000 points hysteresis activable.

Communication

- CAN Interface with CANopen protocol: up to 1 Mbps speed.
- CANopen Baud rate and Node ID configurability by DIP-switches or software.
- Nodeguarding or heartbeat
- RS232 Serial Communication with MODBUS-RTU protocol
- Complete configurability through specific software downloadable in the website www.seneca.it.

Features

INPUT	
Type	6-wires or 4-wires differential measurement input
Full scale	±5 mV ..±320 mV
Error	Calibration: 0.01% of the full scale value Linearity: 0.01% of the full scale value Thermal drift: 25 ppm/°C
STRAIN GAUGE CHARACTERISTICS	
Power supply voltage	5 Vdc
Minimum inpedance	87 Ω equivalent, eventually derived by a parallel of load cells (for example four 350 Ω cells)
Sensitivity	From ± 1 mV/V to ± 64 mV/V
Terminals	4 or 6
DIGITAL INPUT OR OUTPUT	
Digital input opto-isolated	Max voltage: 30 V
Digital output opto-isolated	Max current: 50 mA Max voltage: 30 V
CONVERSION/ACCURACY SPECIFICATIONS	
ADC	24 bit
Thermal drift	25 ppm/°C
Sampling frequency	Settable from 12.35 to 151.71 Hz
Interference rejection	Settable both at 50 and 60 Hz

CONNECTIONS	
Removable terminals	Removable 3-way screw terminals, 5.08 mm pitch
IDC10 rear connector	CAN interface and power supply (for DIN rail)
Stereophonic frontal jack	3.5 mm for RS232 connection (COM)

POWER SUPPLY	
Supply voltage	10 – 40 Vdc or 19 – 28 Vac (50Hz - 60Hz)
Power consumption	Max: 2 W

NOTE: “0x” means an exadecimal number interpretation.

CANOpen features

TECHNICAL DATA	
Baud rate	20, 50, 125, 250, 500, 800, 1000 kbps
Typical refresh time	20 ms
Sensibility supported	From ±1 mV/V to ±64 mV/V
CANOpen TECHNICAL DATA	
NMT	Slave
	Node guarding, heartbeat
Node ID	HW switch or software
Number of PDO	2 TX
PDO modes	Event triggered, Sync (cyclic), Sync (acyclic)
PDO mapping	Variable
PDO linking	supported
Number of SDO	1 server
Error message	yes
Supported application	Cia 301 v4.02
Layer	Cia 401 v2.01

CANOpen TPDOs transmission type supported

Object Value 0x180x Sub 2	TRANSMISSION TYPE
0	Synchronous - acyclic
From 1 to 240	Synchronous - cyclic
255	Asynchronous

CANOpen PDOs mapping

OBJECTS FOR DEFAULT MAPPING				
PDO NR	**COB-ID**	**MAPPED OBJECTS**	**INDEX**	**SUBINDEX**
TPDO2	0x40000280 + NodeId	Measure float	0x6403	1
		ADC 16 bit	0x6401	2
TPDO3	0x40000380 + NodeId	Measure integer	0x6401	1
		STATUS	0x2120	0

Note that TPDO COB-ID must start with 0x4.

CANOpen emergency message

The Emergency message is composed by:

2 bytes of EEC (Emergency error code)

1 bytes of ER (Error register)

Max of 4 bytes of MEF (Manufacturer error filled)

For EEC code 0xFF10, the emergency message is:

EMERGENCY MESSAGE				
BYTE 0	BYTE 1	BYTE 2	BYTE 3	BYTE 4
0xFF10		0x81	MEF	

With this MEF:

MEF (Manufacturer-specific Error Field) for EEC 0xFF10	
BIT	**DESCRIPTION**
15..6	NA
5	Generic communication with input error
4	CRC communication with input error
3	EEPROM error
2	Over weight error
1	Weight float < 0
0	Stable weight

For a “timeout command” or “error command”, the emergency message is:

EMERGENCY MESSAGE				
BYTE 0	BYTE 1	BYTE 2	BYTE 3	BYTE 4
0xFF11		0x81	Object 0x2103	

For “CPU ERROR” the Emergency message will be:

EMERGENCY MESSAGE				
BYTE 0	BYTE 1	BYTE 2	BYTE 3	BYTE 4
0xFF20		0x81	Object 0x1002	

EEC	
CODE	**DESCRIPTION**
0x0000	No error
0x1000	Generic error
0x4201	CPU temperature over HOT STOP ERROR
0x4202	CPU temperature over HOT STOP
0x4203	CPU temperature under COLD ERROR
0x8110	Communication Can Overrun
0x8120	Error passive
0x8130	Life Guard error
0x8140	Recovered from bus off
0xFF10	General input channels error
0xFF11	Command for input channel error
0xFF20	CPU error

ER							
BIT 7	**BIT 6**	**BIT 5**	**BIT 4**	**BIT 3**	**BIT 2**	**BIT 1**	**BIT 0**
Generic	0	Voltage	temperature	communication	0	0	Manufacture

Where bit equal to “0” means “no error”.

Object 0x1002: manufacturer status register

Object 0x1002 is the CPU status.

OBJECT 1002	
BIT	**DESCRIPTION**
31..3	NA
2	Communication with input error
1	NA
0	EEPROM CRC error

Object 0x1006: communication window lenght

OBJECT 1006	
MIN VAL [ms]	**MAX VAL [ms]**
10	10000

Object 0x1007: synchronous window lenght

OBJECT 1007	
MIN VAL [ms]	**MAX VAL [ms]**
2	2000

CANOpen manufacturer specific profile

If dip-switches are in “from memory” mode, the node address is selectable by **Object 0x2001**.

NODE ADDRESS (Object 0x2001)	
Object value	**Description**
0..127	Node address

If dip-switches are in “from memory” mode, the baud rate is selectable by **Object 0x2002**.

BAUDRATE (Object 0x2002)	
Object value	**Description**
1	20 kbit/s
2	50 kbit/s
3	125 kbit/s
4	250 kbit/s
5	500 kbit/s
6	800 kbit/s
7	1 Mbit/s

Object 0x2030 can be used to monitor the CPU temperature.

CPU TEMPERATURE (Object 0x2030)	
Subindex	**Description**
1	Actual temperature [°C/10]
2	Temperature for HOT STOP ERROR [°C/10] 95.0°C
3	Temperature for HOT ERROR [°C/10] 90.0°C
4	Temperature for COLD ERROR [°C/10] -25.0°C

The HOT STOP temperature sends in pre-operational the station.

The HOT ERROR and the COLD ERROR temperature sends the Emergency Object.

The Object is Read Only.

Digital out logic

Digital out logic=0 the digital output it is normally opened.

Digital out logic=1 the digital output it is normally closed.

Object 0x2104: Execute

The object sends command to the CPU: the supported commands are:

Object 0x2104	
COMMAND CODE	**DESCRIPTION**
0xC2FA	Tare acquisition ready to be saved in EEPROM (allowed also in RUN)
0xC60C	Full scale/known weight acquisition ready to be saved in EEPROM (allowed also in RUN)
0xC1BA	Tare acquisition (on RAM) (allowed also in RUN)
0xD180	Full scale acquisition (on RAM) (allowed also in RUN)
0xBAB0	Save new values on EEPROM (allowed also in RUN)

Object 0x2105: Execute result

The object is used to know the command execution result (only for special commands).

Object 0x2107: Configuration register 1

The object is used to setup the measure and the digital input/output.

CONFIGURATION REGISTER 1 (Object 0x2107)	
SUBINDEX	**Description**
1	Sample number
2	Mode
3	Cell sensibility
4	Digital out logic
5	Digital out mode
6	Digital IN or OUT selection

Sample NR

The sample number it is the number of sample that enters into the measure. Higher values implies lower response speed but more stability.

Mode

The station can be configured in two modes:

Mode=1: a known weight must be used to calibrate the system on site.

Mode=0: no need to use a known weight to calibrate the system, the station will use the factory calibration values.

Cell sensibility

The object sets the cell mV/V sensibility:

0=±1 mV/V

1=±2 mV/V

2=±4 mV/V

3=±8 mV/V

4=±16 mV/V

5=±32 mV/V

6=±64 mV/V

7=from object 0x2108 sub1

Digital out logic

Defines the operation that will cause the switch to ON or OFF for the digital output.

DIGITAL OUT LOGIC	
Value	**Description**
0	The output is normally opened
1	The output is normally closed

Digital out mode

Defines the operation that will cause the switch to ON or OFF for the digital output.

DIGITAL OUT MODE	
Value	**Description**
0	The gross weight exceeds the full scale
1	The weight is stable and the net weight exceeds the threshold set
2	The weight it is stable

Digital in or out selection

The station can be configured with a digital input or a digital output:

- if IN or OUT selection=1: digital output enable/digital input disabled

- if IN or OUT selection=0: digital input enable/digital output disabled

Object 0x2108: configuration register 2

The object is used to setup the system measure.

CONFIGURATION REGISTER 2	
Subindex	**Description**
1	Sense ratio
2	Cell full scale
3	Known weight value
4	Not used
5	Not used
6	Threshold value
7	Delta weight
8	Delta time
9	ADC speed
10	Resolution in number of points

Sense ratio

Sets the sense ratio for the strain gauge used in [mV/V] (floating point 32 bit format).

Cell full scale

If mode 1 is selected (object 0x2107) sets the full scale of the strain gauge in technical units of weight (kg, pounds,etc…) (Floating point 32 bit format).

Known weight value

If mode 1 is selected (object 0x2107) sets the value of the weight used for the calibration in technical units (kg, pounds, etc) (Floating point 32 bit format).

Value for Maximum integer

Sets for what net weight (object 0x6403) the integer net value (object 0x6401 subindex 1) rise the +30000 value. (floating point 32 bit format).

Value for Minimum integer

Sets for what net weight (object 0x6403) the integer net value (object 0x6401 subindex 1) rise the zero value. (floating point 32 bit format).

Threshold value

If the net weight exceeds the threshold value set and the weight is stable, the digital output (if subindex digital out mode=1) is closed or opened (depending subindex digital output logic) (floating point 32 bit format).

Delta weight

Weight variation in technical units accepted for the condition of “stable weight” (floating point 32 bit format)

Delta time

Time in units of 100 ms used with delta weight to establish whether or not the weight is stable [s/10].

ADC speed

The ADC speed and the frequency rejection can be customized by the table:

ADC CONFIGURATION			
Value	**Sampling frequency [Hz]**	**50 Hz rejection**	**60 Hz rejection**
27	151.71	NO	NO
55	74.46	NO	NO
82	49.95	YES	YES
109	37.59	NO	YES
155	50.57	NO	NO
183	24.82	YES	NO
210	16.65	YES	YES
237	12.53	NO	YES

Hysteresis

The hysteresis can be used to stabilize the input value. If the hysteresis is activated the resolution is limited to ±30000 points. If hysteresis is disabled, the resolution available is the full 24 bit ADC.

0x00=hysteresis disabled

0x80=hysteresis enabled

Object 0x2120: status

The status object contains important information about the state of the measure and the station.

STATUS	
Bit	**Description**
15..7	NA
6	Net weight > threshold
5	Generic communication with input channel error
4	CRC communication with input channel error
3	EEPROM error
2	Over weight error
1	Negative measure
0	Stable weight condition

DIP-SWITCH configuration

BAUD-RATE (Dip-Switches: SW1)			
1	2	3	Meaning
			Only Baud-Rate is acquired from memory(EEPROM)
		●	20 kbps
	●		50 kbps
	●	●	125 kbps
●			250 kbps
●		●	500 kbps
●	●		800 kbps
●	●	●	1 Mbps

ADDRESS (Dip-Switches: SW1)							
4	5	6	7	8	9	10	Meaning
							Only address is acquired from memory(EEPROM)
						●	Address=1
					●		Address=2
					●	●	Address=3
				●			Address=4
				●		●	Address=5
X	X	X	X	X	X	X	……
●	●	●	●	●	●	●	Address=127

CANOpen LED description

SERVICE (DIAGNOSTIC) LED DESCRIPTION		
LED	**LED status**	**Meaning**
RUN	Blinking light	Pre-operational mode
	Single flash	Stop mode
	ON	Operational mode
ERROR	Single flash	At least one error counter has reached or exceed the warning level
	Double flash	Guard event
	Triple flash	The SYNC has not received within the configurated communication cycle timeout period
	ON	The CAN controller is bus off
	OFF	No error
FAIL	Blinking	Data receiving from RS232/overweight error
	ON	Communication error with input channel
POWER	ON	Power supply

Object for analog data

Object 0x6401 contains the 16 bit (signed) values for the weight and the unsigned 16 bit ADC value.

16 BIT INTEGER INPUT (Object 0x6401)	
Subindex	**Description**
1	Net value signed
2	ADC value

Integer net value

Integer net value (signed): integer approximation of the floating point value.

ADC value

The ADC value scaled into 16 bit (unsigned) value.

Where if ADC = 0x8000 means 0 mV on input.

If ADC = 0xFFFF means max positive mV on input.

If ADC = 0 means max negative mV on input.

Object 0x6403 32 bit float input value

Object 0x6403 contains the net weight in technical unit in agreement with the known weight object (floating point 32 bit format).

Cell calibration procedure for mode=1 (calibration with a known weight)

1) Set the right mV/V sensibility on object 0x2107 subindex 3

2) Save the new value by sending the command 0xBAB0 on object 0x2104 subindex 0

3) Send the Reset command by sending command 0xABAC on object 0x2104 subindex 0

4) Put the Tare on the cell

5) Get the Tare value by sending the command 0xC2FA on object 0x2104 subindex 0

6) Enter the known weight value in technical units (kg, pounds, etc) on object 0x2108 subindex 3

7) Put the known weight value on the cell

8) Get the known weight by sending the command 0xC60C on object 0x2104 subindex 0

9) Save the new values by sending the command 0xBAB0 on object 0x2104 subindex 0

10) Wait 5 seconds and Switch OFF and then ON the ZC-SG

Cell calibration procedure for mode=0 (calibration without a known weight)

1) Set the value 7 on object 0x2107 subindex 3 (use object 2108 for sense ratio)

2) Set the right mV/V sensibility on object 0x2108 subindex1 in floating point value

3) Save the new values by sending the command 0xBAB0 on object 0x2104 subindex 0

4) Send the Reset command by sending command 0xABAC on object 0x2104 subindex 0

5) Put the Tare on the cell

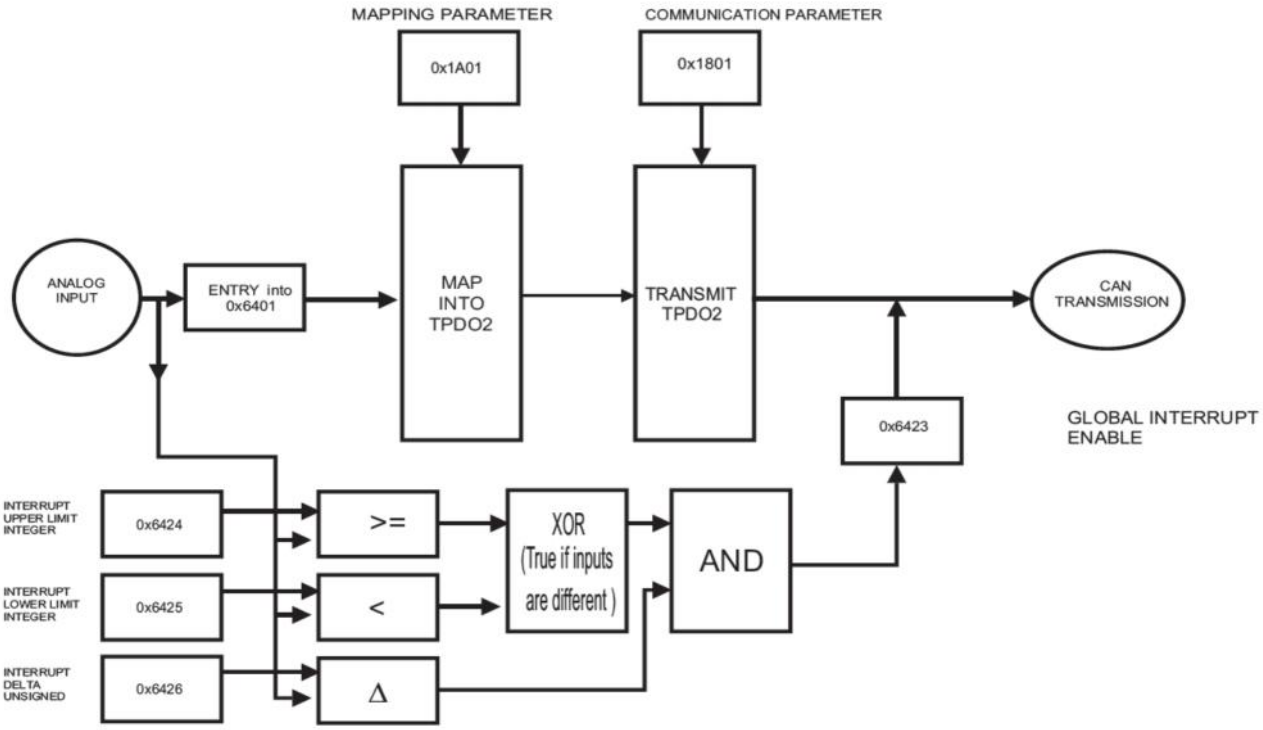
6) Get the Tare value by sending the command 0xC2FA on object 0x2104 subindex 0

7) Save the new values by sending the command 0xBAB0 on object 0x2104 subindex 0

8) Wait 5 seconds and Switch OFF and then ON the ZC-SG

CANOpen functional diagram

For integer values



CANOpen Object dictionary

COMMUNICATION PROFILE AREA						
INDEX	**SUB INDEX**	**NAME**	**DESCRIPTION**	**TYPE**	**ACCESS**	**DEFAULT**
0x1000	0	Device type	Profile 401=0x191	UNSIGNED 32	RO	0x00040191
0x1001	0	Error register	Error register (DS401)	UNSIGNED 8	RO	0
0x1002	0	Station status	Status register	UNSIGNED 32	RO	0
0x1005	0	SYNC COB-ID	The device consumes the SYNC message	UNSIGNED 32	RW	0x00000080
0x1006	0	Comm. window lenght	Sync interval [us]	UNSIGNED 32	RW	0
0x1007	0	Synchronous window lenght	The window [us] for the PDO transmission after the SYNC	UNSIGNED 32	RW	0
0x1008	0	Manufacturer Device name	Device name	VISIBLE STRING	RO	“ZC-SG”
0x1009	0	Manufacturer HW version	Hardware version	VISIBLE STRING	RO	“SC000000”
0x100A	0	Manufacturer SW version	Software version	VISIBLE STRING	RO	“SW001160”
0x100C	0	Guard Time	[ms]	UNSIGNED 16	RW	0
0x100D	0	Life time factor	Max delay between two guarding telegrams= Guard_Time · Life_Time_Factor	UNSIGNED 8	RW	0
0x1010	0	Store parameters/ number of mapped object	Max subindex number	UNSIGNED 8	RO	5
	1	Save all parameters	Store not volatile parameters (write in ASCII “save” for store process MSB 0x65766173 LSB)	UNSIGNED 32	RW	1
	2	Save communication parameters	Store not volatile parameters (write in ASCII “save” for store process MSB 0x65766173 LSB)	UNSIGNED 32	RW	1
	3	Save application parameters	Store not volatile parameters (write in ASCII “save” for store process MSB 0x65766173 LSB)	UNSIGNED 32	RW	1
	4	Save manufacturer parameters	Store not volatile parameters (write in ASCII “save” for store process MSB 0x65766173 LSB)	UNSIGNED 32	RW	1
	5	Save channel parameters	Store not volatile parameters (write in ASCII “save” for store process MSB 0x65766173 LSB)	UNSIGNED 32	RW	1

0x1011	0	Restore default/ number of mapped object	Max subindex number	UNSIGNED 8	RO	5
	1	Restore all parameters	Restore not volatile parameters (write in ASCII “load” for store process MSB 0x64616F6C LSB)	UNSIGNED 32	RW	0
	2	Restore communication parameters	Restore not volatile parameters (write in ASCII “load” for store process MSB 0x64616F6C LSB)	UNSIGNED 32	RW	0
	3	Restore application parameters	Restore not volatile parameters (write in ASCII “load” for store process MSB 0x64616F6C LSB)	UNSIGNED 32	RW	0
	4	Save Manufacturer parameters	Restore not volatile parameters (write in ASCII “load” for store process MSB 0x64616F6C LSB)	UNSIGNED 32	RW	0
	5	Restore slave parameters	Restore not volatile parameters (write in ASCII “load” for store process MSB 0x64616F6C LSB)	UNSIGNED 32	RW	0
0x1014	0	COB-ID emergency Object		UNSIGNED 32	RO	$NODEID+ 0x80
0x1017	0	Heartbeat producer time	Time (ms) 0x0000=there is not heartbeat service	UNSIGNED 16	RW	0
0x1018	0	Identity object	Max subindex number	UNSIGNED 8	RO	4
	1	Vendor ID	Seneca srl	UNSIGNED 32	RO	0x00000249
	2	Product code	ZC-SG Machine ID Code	UNSIGNED 32	RO	0x0000001F
	3	Revision number		UNSIGNED 32	RO	
	4	Serial number		UNSIGNED 32	RO	
0x1200	0	1st SDO port/ number of mapped object	Max subindex number	UNSIGNED 8	RO	2
	1	COB-ID SDO Client-> Server	COB-ID of receive SDO	UNSIGNED 32	RO	$NODEID+ 0x600
	2	COB-ID SDO Server-> Client	COB-ID of transmit SDO	UNSIGNED 32	RO	$NODEID+ 0x580
0x1801	0	2nd transmit PDO parameters	Number of mapped objects	UNSIGNED 8	RO	3
	1	COB-ID used by PDO	COB-ID of TxPDO2	UNSIGNED 32	RW	$NODEID+ 0x40000280
	2	Transmission type	Transmission type for TxPDO2 0x00=synchronous – acyclic	UNSIGNED 8	RW	0xFF

			0x01 to 0xF0=synchronous – cyclic 0xFE=asynchronous manufacturer specific			
	3	Inhibit time	Min delay for the next PDO (ms/10)	UNSIGNED 16	RW	0x00
0x1802	0	3rd transmit PDO parameters	Max subindex number	UNSIGNED 8	RO	3
	1	COB-ID used by PDO	COB-ID of TxPDO3	UNSIGNED 32	RW	$NODEID+ 0x40000380
	2	Transmission type	Transmission type for TxPDO3 0x00=synchronous – acyclic 0x01 to 0xF0=synchronous – cyclic 0xFE=asynchronous manufacturer specific	UNSIGNED 8	RW	0xFF
	3	Inhibit time	Min delay for the next PDO (ms/10)	UNSIGNED 16	RW	0x0000
0x1A01	0	2nd transmit PDO mapping parameter	Number of mapped objects	UNSIGNED 8	RW	2
	1	1st object to be mapped	First object (default: weight float)	UNSIGNED 32	RW	0x64030120 Object=0x6403 Subindex=1 Length=32bit
	2	2nd object to be mapped	Second object (default: ADC 16 bit value)	UNSIGNED 32	RW	0x64010210 Object=0x6401 Subindex=2 Length=16bit
0x1A02	0	3rd transmit PDO mapping parameter	Number of mapped objects	UNSIGNED 8	RO	2
	1	1st object to be mapped	First object (default: weight integer)	UNSIGNED 32	RW	0x64010110 Object=0x6401 Subindex=1 Length=16bit
	2	2nd object to be mapped	Second object (default: status)	UNSIGNED 32	RW	0x21200010 Object=0x2120 Subindex=0 Length=16bit

MANUFACTURER PROFILE AREA

INDEX	SUB INDEX	NAME	DESCRIPTION	TYPE	ACCESS	DEFAULT
0x2001	0	Module address	Station address (only if dip switch 4,5,6,7,8,9,10 are OFF)	UNSIGNED 8	RW	0x7F=127

0x2002	0	Baudrate	Station Baudrate (only if dip switch 1,2,3 are OFF) 1=20kbps 2=50kbps 3=125kbps 4=250kbps 5=500kbps 6=800kbps 7=1Mbps	UNSIGNED 8	RW	0x01
0x2003	0	Firmware release		UNSIGNED 16	RO	1122
0x2030	0	Device temperature/ number of parameters	Max subindex number	UNSIGNED 8	RO	4
	1	Internal temperature	Station internal temperature [°C/10]	INTEGER 16	RO	0
	2	Hi Hi temperature	Critical hot temperature (all operations stop) [°C/10]	INTEGER 16	RO	950
	3	Hi temperature	Warning for too hot temperature [°C/10]	INTEGER 16	RO	900
	4	Low temperature	Critical low temperature (all operations stop) [°C/10]	INTEGER 16	RO	-250
0x2104	0	Execute	Supported commands: 0xC2FA=tare acquisition (ready for EEPROM saving) 0xC60C=full scale acquisition (ready for EEPROM saving) 0xC1BA=tare acquisition (RAM) 0xD180=full scale acquisition (RAM) 0xBAB0=save values in EEPROM	UNSIGNED 16	RW	0
0x2105		Execute result	0=command done 1=command executed with error	UNSIGNED 16	RW	0
0x2107	0	SETUP 1 channel	Number of parameters	UNSIGNED 8	RO	6
	1	SET1: sample number	Number of samples for filter calculation [1..100]	UNSIGNED 8	RW	100
	2	SET1: mode	0=use the factory calibration 1=use a known weight	UNSIGNED 8	RW	1

	3	SET1: cell sensibility	0=±1 mV/V 1=±2 mV/V 2=±4 mV/V 3=±8 mV/V 4=±16 mV/V 5=±32 mV/V 6=±64 mV/V 7= from object 0x2108 sub1	UNSIGNED 8	RW	1
	4	SET1: digital out logic	0=the output is normally open 1=the output is normally closed	UNSIGNED 8	RW	0
	5	SET1: digital out operation mode	0=the output is switched when the gross_weight > full_scale 1=the output in switched when the weight is stable and the net weight > threshold 2=the output is switched when the weight is stable	UNSIGNED 8	RW	0
	6	SET1: digital in or out mode	0=digital input mode 1=digital output mode	UNSIGNED 8	RW	0
0x2108	0	SETUP Channel	Number of parameters	UNSIGNED 8	RO	10
	1	SET2: sense ratio	Cell sense ratio in mV/V measure	REAL 32	RW	2.0
	2	SET2: cell full scale		REAL 32	RW	10000.0
	3	SET2: known weight	Known weight [kg, g, etc…]	REAL 32	RW	10000.0
	4	SET2: not used		REAL 32	RO	10000.0
	5	SET2: not used		REAL 32	RO	0.0
	6	SET2: threshold		REAL 32	RW	5000.0
	7	SET2: Delta weight	Weight variation for the stable condition	REAL 32	RW	1.0
	8	SET2: Delta time	The variation used for the stable condition Delta time ·100 ms	UNSIGNED 16	RW	1
	9	SET2: ADC speed	27=151.71 Hz 55=74.46 Hz 82=49.95 Hz 109=37.59 Hz 155=50.57 Hz 183=24.82 Hz 210=16.65 Hz 237=12.53 Hz	UNSIGNED 8	RW	82
	10	SET2: 30000 points hysteresis	0x00=full resolution 0x80=30000 points resolution	UNSIGNED 8	RW	0x80

0x2120	0	Channel status	Status object	UNSIGNED 16	RO	
0x2125	0	Fault action		UNSIGNED 16	RW	0x8000
0x2160	0	Fault value	Number of parameters	UNSIGNED 8	RO	0x01
	1	Fault value		REAL 32	RW	850.0

STANDARD DEVICE PROFILE AREA

INDEX	SUB INDEX	NAME	DESCRIPTION	TYPE	ACCESS	DEFAULT
0x6401	0	16 bit input	Number of input	UNSIGNED 8	RO	2
	1	Weight integer	Weight in integer format	INTEGER 16	RO	
	2	ADC value (scaled to 16 bit)	ADC scaled value	UNSIGNED 16	RO	
0x6403	0	Float input	Number of input	UNSIGNED 8	RO	1
	1	Weight real	Weight in real format	REAL 32	RO	
0x6423	0	Global interrupt enable	0=disable asynchronous TxPDO 1=enable asynchronous TxPDO	BOOLEAN	RW	0
0x6424	0	Analogue interrupt upper limit 16 bit	Number upper value 16 bit	UNSIGNED 8	RO	1
	1	Analogue interrupt upper limit 16 bit		INTEGER 16	RW	0
0x6425	0	Analogue interrupt lower limit 16 bit	Number lower value 16 bit	UNSIGNED 8	RO	1
	1	Analogue interrupt lower limit 16 bit		INTEGER 16	RW	0
0x6426	0	Analogue interrupt delta limit 16 bit	Number delta limit value 16 bit	UNSIGNED 8	RO	1
	1	Analogue interrupt delta limit 16 bit		INTEGER 16	RW	0
0x6429	0	Analogue interrupt upper limit float	Number upper value float	UNSIGNED 8	RO	1
	1	Analogue interrupt upper limit float		REAL 32	RW	0

0x642A	0	Analogue interrupt lower limit float	Number lower value float	UNSIGNED 8	RO	1
	1	Analogue interrupt lower limit float		REAL 32	RW	0
0x642B	0	Analogue interrupt delta limit float	Number delta limit value float	UNSIGNED 8	RO	1
	1	Analogue interrupt delta limit float		REAL 32	RW	0

Easy-SETUP

To configure the Seneca Z-PC Line modules, it is possible to use Easy-SETUP software, free-downloadable from the www.seneca.it; the configuration can be performed by RS232 or RS485 bus communication.