

INDICATOR 6100
ONLINE-SIR PROTOCOL



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The indicator 6100 offers the possibility to communicate bi-directional with a PC or other hardware devices which can handle simple ASCII commands. (For activation of this application setting, please contact your scale dealer.)

Protocol:

Baudrate- 600 to 19200 (default = 9600)

Databits- 7 or 8 (default = 8)

Stopbits- 1 or 2 (default = 1)

Parity- odd/even/none (default = none)

Handshake-none

ASCII commands*₂

ASCII command	Response string	Operation
SZ<CR>	OK<CR>/ERR<CR>	Set zero value
SP<value><CR>* ₁	OK<CR>/ERR<CR>	Set preset tare value
RP<CR>	OK<CR>/ERR<CR>	Reset preset tare
RT<CR>	OK<CR>/ERR<CR>	Reset tare
ST<CR>	OK<CR>/ERR<CR>	Set tare
SG<CR>	G+0001.0<CR>	Send gross mode (continuously)
SN<CR>	N+0001.0<CR>	Send net mode (continuously)
SW<CR>	W+00010+000103805<CR>* ₂	Send weights mode (continuously)
GP<CR>	P+0001.0<CR>	Get preset tare
GT<CR>	T+0001.0<CR>	Get tare
GG<CR>	G+0001.0<CR>	Get gross
GN<CR>	N+0001.0<CR>	Get net
GW<CR>	W+00010+000103805<CR>	Get net, gross, status and checksum
MN<CR>	N+0001.0<CR>	Get net, wait for no motion
MG<CR>	G+0001.0<CR>	Get gross, wait for no motion
AN<CR>	N+0001.0;0001<CR>	Get net and alibi nr., wait for no motion
AG<CR>	G+0001.0;0001<CR>	Get gross and alibi nr., wait for no motion

*1: If the scale is working in ranges with a number after the decimal point, the preset tare value should be given in accordingly. If the scale is working in ranges equal to or higher than 1 kg/lb, then the value should be entered with the decimal point at the end of the value.

E.g. ranges 0.1/0.2/0.5 >> SP0001.5<CR>, ranges 1/2/5/10/20/50 >> SP00150.<CR>

*2: If an error state is reached (like overload or underload) the SW-command should be renewed after the error state has been resolved.

Special commands 'GW' and 'SW'

The 'GW' and 'SW' are commands with checksums. With these commands it is possible to get net, gross and status data. The response string doesn't have the decimal point information. The 'SW' update rate is slower than the other commands.

Structure of the response string:

W	+00010	+00010	38	05	<CR>
Data ID	Net value	Gross value	Status(hex)	Checksum	End of string

Status bits:

Bit number	Bit definition	Status '0'	Status '1'
7 (MSB)	Indicator error	No errors	Indicator error
6	Tare active	No tare active	Tare active
5	Zero corrected	No zero correction	Zero corrected
4	Weight stable	Weight unstable	Weight stable
3	Within zero range	Out of zero range	Within zero range
2	Above max load	Under max load	Above max load
1	Setpoint 2 active	Setpoint 1 not active	Setpoint 1 active
0 (LSB)	Setpoint 1 active	Setpoint 2 not active	Setpoint 2 active

Example:

38 (hex) = 0011 1000(binair)

bit 5, zero corrected

bit 4, weight stable

bit 3, within zero range

Calculating the checksum:

The checksum is the inverted sum of all ASCII characters in the response string previous to the checksum.

Example:

Response string = W+00010+000103805<CR>

Add all hex values of the characters in the string.

[W]+[+]+[0]+[0]+[0]+[1]+[0]+[+]+[0]+[0]+[0]+[1]+[0]+[3]+[8]

Total is 2FA(hex)

Remove the most significant digit, result is FA(hex)
Invert the hexadecimal value, result is 05(hex)
Convert the hexadecimal value to characters, result is [0][5]

Special commands 'AN' and 'AG'

With these special commands an extra value is send along together with the weight; the alibi number. It consists of 4 digits and is also saved in the indicators alibi memory. The number increases with every stored weighing.

The command works as follows:

- PC or terminal sends out the command AN or AG for demanding the net or gross weight respectively.
- Indicator waits for the weight to become stable after which it returns the demanded weight accompanied by the alibi number under which this weighing was stored in the alibi memory of the indicator.
- Format of the return string is: N+0001.0;0001<CR> or G+0001.0;0001<CR>

N = Net indicator

+ = sign indicator

0001.0 = weight value with decimal point

; = semi-colon separator sign

0001 = alibi number

<CR> = ending sign

① NOTE: in case of an error in the display the PC will receive the following strings instead of a weight:

Error display* ₁	Error Response string	Meaning
Overload	oooooooo<CR>	Above full scale
Underload	=====<CR>	Gross below zero range
Underload	=====<CR>	Underload on AD converter
Overload	oooooooo<CR>	Overload on AD converter
--__	=====<CR>	out of level

*1: All error messages can only be resolved at the weighing system,.