

# PENKO Engineering B.V.

Your Partner for Fully Engineered Factory Solutions



How to...  
Print to Alibi memory with Profibus



**PENKO**

*an ETC Company*

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## Enter “Function mode”

To enter the “Function mode” command bit 1 and 2 must be set high at the same time.

```
; outputs:
; byte, 8 bit command (if addressed as word high byte is command, low byte is select register)
; byte, 8 bit weight select register
;
; double word, 32 bit signed integer, preset tare. Setup this register and at rising edge of command bit 5 preset tare is activated.
;
; double word, 32 bit signed integer, level 1
; double word, 32 bit signed integer, level 2
; double word, 32 bit signed integer, level 3
; double word, 32 bit signed integer, level 4
;
; command bit definition
; 1 = zero reset command
; 2 = zero set command
; 3 = tare off
; 4 = tare on
; 5 = preset tare command
; 6 = freeze bit, freeze weigher registers at rising edge for selected weigher, if bit is 0 registers will be updated
; use this bit to read out all necessary weigher registers without any interruption of the weigher, example:
; set bit 6
; read net
; read tare
; read net x10
; reset bit 6
; 7 = indicator channel 2^0, channel is a helper register to select a wider range of registers. Reserved for the SGM and should be set to 0.
; 8 = indicator channel 2^1, channel is a helper register to select a wider range of registers. Reserved for the SGM and should be set to 0.
```

The status will show if “Function mode” is activated.

```
Module = "IND1020" 0x6A, 0x5F
; Inputs : double word, 32 bit signed integer/float, weight register
; word, 16 bit status
; byte, 8 bit command (if addressed as word high byte is command, low byte is select register)
; byte, 8 bit weight select register
; word, 16 inputs 1..16, inputs 4-16 are virtual inputs generated by software
; word, 16 outputs 201..216, outputs 205-216 are virtual outputs generated by software
;
; double word, 32 bit signed integer, preset tare
;
; double word, 32 bit signed integer/float, indicator gross x10(same as weight select register 9)
; double word, 32 bit signed integer/float, indicator net x10(same as weight select register 10)
; double word, 32 bit signed integer/float, indicator tare x10(same as weight select register 13)
; double word, 32 bit signed integer/float, multirange weight(same as weight select register 0)
```

Bit 15 will indicate if “Function mode” is activated.

If bit 15 is high, Function mode is activated.

If bit 15 is low, normal operation is activated.

```
; status bit definition
; 1 = hardware overload detected
; 2 = overload detected
; 3 = stable signal
; 4 = in stable range
; 5 = zero corrected
; 6 = center of zero
; 7 = in zero range
; 8 = zero tracking possible
; 9 = tare active
; 10 = preset tare active
; 11 = new sample available
; 12 = calibration invalid
; 13 = calibration enabled
; 14 = user certified operation
; 15 = reserved
; 16 = reserved
```

## Print to Alibi memory

### Send request

To print to alibi memory, set value 307 in “write extended register n+0” (low word).

Input parameters
Parameter 1 PRINT_ALIBI (=307)
Parameter 2 Not Used
Parameter 3 Not used
Parameters 4 Not used

### Profibus outputs

Byte	8 bit command (if addressed as word high byte is command, low byte is select register)
Byte	Byte 8 bit weight select register
Double word	32 bit signed integer, preset tare. Setup this register and at rising edge of command bit 5 preset tare is activated.
Double word	32 bit signed integer, if bit #7 + #8 is set write level 1 write extended register n+0
Double word	32 bit signed integer, if bit #7 + #8 is set write level 2 write extended register n+1
Double word	32 bit signed integer, if bit #7 + #8 is set write level 3 write extended register n+2
Double word	32 bit signed integer, if bit #7 + #8 is set write level 4 write extended register n+3

## Receive request

The following data will be received.

Output parameters
Result 1 PRINT_ ALIBI (307)
Parameter 2 UID code
Parameter 3 Net
Parameters 4 (Preset)Tare

The 4 parameters can be read out in the highlighted extended registers listed below.

### Profibus inputs

Double word	32 bit signed integer/float, weight register
Word	16 bit status field
Byte	8 bit command (if addressed as word high byte is command, low byte is select register)
Byte	8 bit weight select register
Word	16 inputs 1..16, inputs 4-16 are virtual inputs generated by software
Word	16 outputs 201..216, outputs 205-216 are virtual outputs generated by software
Double word	32 bit signed integer, preset tare
Double word	32 bit signed integer/float, indicator gross x10(same as weight select register 9) <b>read extended register m+0 in register function mode</b>
Double word	32 bit signed integer/float, indicator net x10(same as weight select register 10) <b>read extended register m+1 in register function mode</b>
Double word	32 bit signed integer/float, indicator tare x10(same as weight select register 13) <b>read extended register m+2 in register function mode</b>
Double word	32 bit signed integer/float, (multi-range) mweight(same as weight select register 0) <b>read extended register m+3 in register function mode</b>

When the data is received, send 0 in “write extended register n+0”

### Profibus outputs

Byte	8 bit command (if addressed as word high byte is command, low byte is select register)
Byte	Byte 8 bit weight select register
Double word	32 bit signed integer, preset tare. Setup this register and at rising edge of command bit 5 preset tare is activated.
Double word	32 bit signed integer, if bit #7 + #8 is set write level 1 write extended register n+0
Double word	32 bit signed integer, if bit #7 + #8 is set write level 2 write extended register n+1
Double word	32 bit signed integer, if bit #7 + #8 is set write level 3 write extended register n+2
Double word	32 bit signed integer, if bit #7 + #8 is set write level 4 write extended register n+3

Now 0 will show in “read extended register m+0”.

### Profibus inputs

Double word	32 bit signed integer/float, weight register
Word	16 bit status field
Byte	8 bit command (if addressed as word high byte is command, low byte is select register)
Byte	8 bit weight select register
Word	16 inputs 1..16, inputs 4-16 are virtual inputs generated by software
Word	16 outputs 201..216, outputs 205-216 are virtual outputs generated by software
Double word	32 bit signed integer, preset tare
Double word	32 bit signed integer/float, indicator gross x10(same as weight select register 9) read extended register m+0 in register function mode
Double word	32 bit signed integer/float, indicator net x10(same as weight select register 10) read extended register m+1 in register function mode
Double word	32 bit signed integer/float, indicator tare x10(same as weight select register 13) read extended register m+2 in register function mode
Double word	32 bit signed integer/float, (multi-range) mweight(same as weight select register 0) read extended register m+3 in register function mode

## Leave “Function mode”

To leave the “Function mode” command bit 1 and 2 must be reset at the same time.

```
; outputs:
; byte, 8 bit command (if addressed as word high byte is command, low byte is select register)
; byte, 8 bit weight select register
;
; double word, 32 bit signed integer, preset tare. Setup this register and at rising edge of command bit 5 preset tare is activated.
;
; double word, 32 bit signed integer, level 1
; double word, 32 bit signed integer, level 2
; double word, 32 bit signed integer, level 3
; double word, 32 bit signed integer, level 4
;
; command bit definition
; 1 = zero reset command
; 2 = zero set command
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; 6 = freeze bit, freeze weigher registers at rising edge for selected weigher, if bit is 0 registers will be updated
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; word, 16 inputs 1..16, inputs 4-16 are virtual inputs generated by software
; word, 16 outputs 201..216, outputs 205-216 are virtual outputs generated by software
;
; double word, 32 bit signed integer, preset tare
;
; double word, 32 bit signed integer/float, indicator gross x10(same as weight select register 9)
; double word, 32 bit signed integer/float, indicator net x10(same as weight select register 10)
; double word, 32 bit signed integer/float, indicator tare x10(same as weight select register 13)
; double word, 32 bit signed integer/float, multirange weight(same as weight select register 0)
```

Bit 15 will indicate if “Function mode” is activated.

If bit 15 is high, Function mode is activated.

If bit 15 is low, normal operation is activated.

```
; status bit definition
; 1 = hardware overload detected
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; 9 = tare active
; 10 = preset tare active
; 11 = new sample available
; 12 = calibration invalid
; 13 = calibration enabled
; 14 = user certified operation
; 15 = reserved
; 16 = reserved
```



## About PENKO

Our design expertise include systems for manufacturing plants, bulk weighing, check weighing, force measuring and process control. For over 35 years, PENKO Engineering B.V. has been at the forefront of development and production of high-accuracy, high-speed weighing systems and our solutions continue to help cut costs, increase ROI and drive profits for some of the largest global brands, such as Cargill, Sara Lee, Heinz, Kraft Foods and Unilever to name but a few.

Whether you are looking for a simple stand-alone weighing system or a high-speed weighing and dosing controller for a complex automated production line, PENKO has a comprehensive range of standard solutions you can rely on.

## Certifications

PENKO sets high standards for its products and product performance which are tested, certified and approved by independent expert and government organizations to ensure they meet – and even – exceed metrology industry guidelines. A library of testing certificates is available for reference on:

[http://penko.com/nl/publications\\_certificates.html](http://penko.com/nl/publications_certificates.html)



## PENKO Professional Services

PENKO is committed to ensuring every system is installed, tested, programmed, commissioned and operational to client specifications. Our engineers, at our weighing center in Ede, Netherlands, as well as our distributors around the world, strive to solve most weighing-system issues within the same day. On a monthly basis PENKO offers free training classes to anyone interested in exploring modern, high-speed weighing instruments and solutions. A schedule of training sessions is found on: [www.penko.com/training](http://www.penko.com/training)

## PENKO Alliances

PENKO's worldwide network: Australia, Belgium, Brazil, China, Denmark, Germany, Egypt, Finland, France, India, Italy, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Syria, Turkey, United Kingdom, South Africa, Slovakia Sweden, Switzerland and Singapore. A complete overview you will find on: [www.penko.com/dealers](http://www.penko.com/dealers)

