In the following Cs means calibration step. N is the choice. (See B01610, B01030)
At calibration, the following can be chosen for the serial outputs:

Display		Function. Described in B01040 or else noted.
Cs07	=0	8 bits, odd parity, 1 stop bit.
	=1	8 bits, no parity, 1 stop bit. (Preset).
	=2	8 bits, no parity, 2 stop bits.
	=3	8 bits, even parity, 1 stop bit.
	=4	7 bits, odd parity, 1 stop bit.
	=5	7 bits, even parity, 1 stop bit.
	=6	7 bits, odd parity, 2 stop bits.
	=7	7 bits, even parity, 2 stop bits.
	+8	Serial input. Described in B01050.

Protocols for output on 15p D-sub (U1275 standard RS232, 9p D-sub, J6). Signal designation is 1.
If printer output is chosen at both Cs6 and 13, only 6 is used.

Cs06	=0	Output 2. Display and mode indicators.
	=1	Display (peak for Cs3:+4) in ASCII output. For printer. (Preset)
	=2	Programmable continuous serial output of display. B00900.
	=3	Display in ASCII. Print number reg. 59S (159S). For printer.
	=4	Weight BCD value in ASCII every measurement cycle. No mean value.
	=5	Display in ASCII Net & gross. For printer.
	=6	AD value in ASCII every measurement cycle. No mean value.
	=7	Display in ASCII Net & gross. Print number reg. 59S (159S). For printer.
	=8	Output 1. Display, tare and mode indicators.
	=10	Output 3. Display, tare, setpoints, mode indicators, 16 bits DA–value.
	=15	No output.

Protocols for output on 25p Dsub. Signal designation is 2. (Input also on U1275, J6.)
If non-printer output is chosen in both Cs6 and 13, only 13 is used.

Cs13	=0	Output 2. Display and mode indicators.
	=1	Display (peak for Cs3:+4) in ASCII output. For printer. (Preset)
	=2	Programmable continuous serial output of display. B00900.
	=3	Display in ASCII. Print number reg. 59S (159S). For printer.
	=4	Weight BCD value in ASCII every measurement cycle. No mean value.
	=5	Display in ASCII Net & gross. For printer.
	=6	AD value in ASCII every measurement cycle. No mean value.
	=7	Display in ASCII Net & gross. Print number reg. 59S (159S). For printer.
	=8	Output 1. Display, tare and mode indicators.
	=10	Output 3. Display, tare, setpoints, mode indicators, 16 bits DA–value.
	=11	Protocol 4. Bidirectional. Cs07:+8 is not needed.
	=15	No output.

Protocols N=0, 2, 4, 6, 8 and 10 are sent out once every measurement cycle, but N=4, 6 and 8 are stopped, when the indicator is not in weighing mode.
The other (N=0, 2 and 10) follows the display in non weighing mode, but input speed from keyboard is maximum once per measurement cycle (80ms).

Register 59S (159S) increments one step for every print command.

Cs27 =1-99 Address number for the serial input. N=0 means no address.

Double width means that S0 = ASCII 14 (hex 0E) is sent at the start of each text.

Cs08	=0	Swedish text.
	+1	Print in double width (Some printers). ASCII 14 (SO) is sent out.
	+2	Mostly no normal printer output. Used with e.g. Cs11:3 or for high speed.
	+4	English text.
	+8	Print output only if addressed according to Cs27. B01050

Cs14	=0-15	Linefeeds between printings. CR = 13 (from 1996, CR + LF) is used . (Preset to 1).
Cs22	=0-99	Steps tabulation from left margin at printing.

For printers with no character buffer after DTR is set low.
Cs10 +1 100ms delay after CR and LF for some printers with line buffer only.

Number of measurement cycles and serial outputs per measurement cycle:

Cs09	=0	Display every 4 measurement cycle.
	=1	Display every measurement cycle.
	=2	Display & output (Cs6&13, 13=0, 2 or 10), every 4 measurement cycle.
	=3	Display & output (Cs6&13, 13=0, 2 or 10), every 16 measurement cycle.

A 6 digit number may be entered more than one time between each weight print.

Cs01	=0	Entering 6 digit and {ENTER} stores the number in 24L and prints the number and the weight.
	+2	6 digit and {ENTER} stores the number in 24L but prints only number.

After each print command the scale must be unloaded to zero range for new print if:
Cs04 +2 Unload to zero range before new print.

Print command is inhibited at motion or may be delayed until motion disappears by:
Cs19 =0 No printing at motion.
+2 Printing when motion disappears.

There are also possibility to store arbitrary texts, commands and registers (up to 100 ASCII characters and 24 string, each with 20 characters), in the battery backup RAM and later print these on command. Cs11:=3. Described in DB00900.

Timeout, when DTR is low, is 255 measuring cycles (normally 80ms) or 20 seconds.

In calibration mode, when {ZERO} is pushed (BCD value displayed) and then {L}, all calibration values are sent out. Space is printed F.

When ASCII for printer is chosen, data are sent to the printer after {ENTER}, {TEST}, {T}, {S} or {L}.
At the end of all printer ASCII lines CR = 13 (from 1996, CR + LF) is sent out.

Examples when ASCII text for printers is chosen.

Command:	Printer.		Comment.
{ENTER} Cs6:=1 Cs13:=1	+222.22 kg Gross		Prints weight.
{ENTER} Cs6:=7 Cs13:=7	Nr +00001		Prints net and gross weight and number
	+111.11 kg Net		of printing.
	+222.22 kg Gross		
{y}{y}{S}	+222.22 kg 00001#	Add yyS	0≤ yy≤ 49 Adds in sum register yyS.
{y}{y}{T}	+111.11 kg	Tare yyT	0≤ yy≤ 99 Tare with weight in yyT.
{R}{y}{y}{S}{ENTER}	+12345678.90 kg	yyS	0≤ yy≤ 49 Print weight in sum register
	+zzzzz #	1yyS	yyS and number of sums in 1yyS.
{R}{y}{y}{T}{ENTER}	+111.11 kg	yyT	0≤ yy≤ 99 Print tare register yyT.
{R}{y}{y}{L}{12345}{L}{67890}{R}{ENTER}	+xxxxxxxx.xx kg	yyL	0≤ yy≤ 7 Enter new setpoint in yyL.
	-12345678.90 kg	yyL	
{R}{y}{y}{S}{00024}{ENTER}	+xxxxxxxx.xx kg	yyS	0≤ yy≤ 49 Preset sum register yyS to
	+00024000.00 kg	yyS	24 000.00 kg. 1yyS is not changed.
	+yyyyy #	1yyS	
{R}{y}{y}{S}{0}{ENTER}	+xxxxxxxx.xx kg	yyS	0≤ yy≤ 49 Set yyS and 1yyS to zero.
	+yyyyy #	1yyS	
	+00000000.00 kg	yyS	
	+00000 #	1yyS	
{C}{n}{L}	+xxxx.xx g	17L	Enter counting mode with n pieces.
{R}{1}{7}{L}{ENTER}	g/Unit +xxxx.xx		Print stored unit weight.
{S} in counting mode.	Units +xxxxx		Add number of pieces in countin mode.
	Nr +yyyyy		
	+zzzzzzzzzz		

{F}{x}{x}{x}{ENTER} prints out xxx and register according to B00900.

The Baud rate is set with the switch on the digital board.
At delivery 1200 baud is set. Do not use higher baud rates then necessary. To work properly at high speed and high capacitive loads, the serial outputs must be loaded with 3 to 5mA.
E.g.: At 5V, 1k < Rload < 1.7k. At 12V, 2.4k < Rload < 4k.
If normal RS232 output is wanted, serial transmitter U13252 can be used.

Baud rate.

U1270/2/3	U1274	U1275	Speed	
S1:1 on	S1:1 on	JP13 on	4800 baud	Signal 1, CS06
S1:3 on	S1:2 on	JP12 on	2400 baud	–"–
S1:5 on	S1:3 on	JP11 on	1200 baud	–"–
S1:7 on	S1:4 on	JP10 on	300 baud	–"–
S1:2 on	–	JP13 on	4800 baud	Signal 2, Cs13
S1:4 on	–	JP12 on	2400 baud	–"–
S1:6 on	–	JP11 on	1200 baud	–"–
S1:8 on	–	JP10 on	300 baud	–"–

Optoisoplated standard RS232 with 25p D-sub in option U1290 (Cs13, signal 2).
U1275 has also standard RS232 with 9p D-sub (see Cs6, signal 1).

Special serial outputs 1, 2 and 3. Common notations:

		P2	P1	P0	
MOT	Motion = 1				
OVL	Overload = 1	0	0	0	= no decimal point.
ZER	Zero = 1	0	0	1	= xxxxx.
SGN	Sign - = 1	0	1	0	= xxxx.x
TAR	Tared = 1	0	1	1	= xxx.xx
NET	Net = 1	1	0	0	= xx.xxx
GRO	Gross = 1	1	0	1	= x.xxxx
INP	Input "2" = 1 (U1272)				

Dn:b means display digit n from 1 to 5 (5 is most significant digit) and b 1 ,2 ,4 or 8 in BCD value. In the same way for T, which means used tare value.
When LT = 1, bit 3 to 0 in the BCD digits switch between 1000 (8) and 1111 (blanking).

Description of special serial output 1. Cs6:=8 or Cs13:=8.
Output every measurement cycle.
Byte 1, bit 0-3 are always hexadecimal E=1110 for recognition.

Byte	bit 0	bit 1	bit 2	bit 3	bit 4	bit 5	bit 6	bit 7
1	0	1	1	1	GRO	NET	INP	SGN
2	D5:1	D5:2	D5:4	D5:8	D4:1	D4:2	D4:4	D4:8
3	D3:1	D3:2	D3:4	D3:8	D2:1	D2:2	D2:4	D2:8
4	D1:1	D1:2	D1:4	D1:8	ZER	TAR	OVL	MOT
5	T5:1	T5:2	T5:4	T5:8	T4:1	T4:2	T4:4	T4:8
6	T3:1	T3:2	T3:4	T3:8	T2:1	T2:2	T2:4	T2:8
7	T1:1	T1:2	T1:4	T1:8	0	P0	P1	P2

Description of special serial output 2. Cs6:=0 or Cs13:=0
Output every measurement cycle, also non weighing mode.
Bit 4-6 are address for e.g. UART.
DP Decimal point to the right of corresponding digit = 1.
LT Lamp test = 1.

Byte	bit 0	bit 1	bit 2	bit 3	bit 4	bit 5	bit 6	bit 7
1	D5:1	D5:2	D5:4	D5:8	0	0	1	DP
2	D4:1	D4:2	D4:4	D4:8	1	1	0	DP
3	D3:1	D3:2	D3:4	D3:8	0	1	0	DP
4	D2:1	D2:2	D2:4	D2:8	1	0	0	DP
5	D1:1	D1:2	D1:4	D1:8	0	0	0	DP
6	GRO	NET	INP	SGN	0	1	1	LT
7	ZER	TAR	OVL	MOT	1	1	1	LT

Description of special serial output 3. Cs6:=10 or Cs13:=10.
Output every measurement cycle, also non weighing mode.

Byte 1, bits 0-3 are always hexadecimal E=1110 for recognition.
Other bytes with the value 1110 for bit 0 to 3 in byte 1 are changed to F=1111 in the output.

DA-converter value is a 16 bit binary code and it is used for a 0-20mA analog output. All bits = 0 (0mA) corresponds to zero on the display minus 4 increments. If Cs28:+2 is chosen, 20% of full scale (4mA) corresponds to zero.
All bits = 1 (20mA) corresponds to full scale plus 3 increments.
If Cs28:+1 is chosen, the net (displayed) value is used, otherwise the gross (calibration) value is used.

WGH = 1 indicates net or gross display. (DA-value and setpoints are valid).

Byte	bit 0	bit 1	bit 2	bit 3	bit 4	bit 5	bit 6	bit 7	Comments
1	0	1	1	1	GRO	NET	INP	SGN	
2	D5:1	D5:2	D5:4	D5:8	ZER	TAR	OVL	MOT	
3	D4:1	D4:2	D4:4	D4:8	B0	B1	B2	B3	B0 - B15 binary weight
4	D3:1	D3:2	D3:4	D3:8	B4	B5	B6	B7	value for AD-converter.
5	D2:1	D2:2	D2:4	D2:8	B8	B9	B10	B11	B0 = LSB (Least Signi-
6	D1:1	D1:2	D1:4	D1:8	B12	B13	B14	B15	ficant Bit).
7	T5:1	T5:2	T5:4	T5:8	L0	L1	L2	L3	L0 - L7 setpoints for
8	T4:1	T4:2	T4:4	T4:8	L4	L5	L6	L7	sum registers S0 - S7.
9	T3:1	T3:2	T3:4	T3:8	L8	L9	L10	L11	L8 - L15 setpoint for
10	T2:1	T2:2	T2:4	T2:8	L12	L13	L14	L15	weight.
11	T1:1	T1:1	T1:4	T1:8	WGH	P0	P1	P2	

If Cs28:+8 is chosen, the printer output in Cs6 or the programmable output (B00900) is sent out on both outputs after command. Before this, one transmission with P0 = P1 = P2 = 1 is sent out.
When the printer transmission is ready and the indicator back in weighing mode, special output 3 is resumed after a delay of about one second.

Description of special serial protocol 4. Cs13:=11.
This is used for bidirectional communication with a computer.
The serial input works without Cs07:+8.

The computer asks: <STX> [ASCII message] [BCC] <ETX> where

<STX> is	(002) decimal ASCII value.
<ETX> is	(003).
[ASCII message] is:	PB = (080) (066) = Gross weight request.
	PN = (080) (078) = Net weight request.
	PT = (080) (084) = Tare request.
	DI = (068) (073) = Displayed weight request.

The indicator answers: <STX> [S1] [S2] [00wwwww] [BCC] <ETX> where

[S1] is:	B = (066) = Gross weight.
	N = (078) = Net weight.
	T = (084) = Tare value.
	D = (068) = Displayed weight.
[S2] is	+ (043) or - (045).
[00wwwww]	The weight in 5 digits and 2 leading zeros.

[BCC] means "Binary Check Control" and is computed as follows:
On the tramsmitted message an XOR is computed on all 8 bit values excluding <ETX>. This 8 bit value is [BCC].

On the received message an XOR is computed on all 8 bit values including [BCC] but excluding <ETX>. The result must be zero, else the message is skipped.

Connectors:

J6:	15p D–sub female. U1272/3. (Refers to Cs6, signal 1.)
6	+TD1 Opto isolated output. Transmit Data. On (negative) at rest. <25V, <5mA, Von <1V.
5	–TD1 Return for pin 5.
7	DTR1 Opto isolated input. Data Terminal Ready. Negative polarity not ready. 5–9mA, 825ohm.
13	Opto isolated PRINT/TEST input, negative polarity. 5–9mA, 825ohm in series.
14	Opto isolated TARE input, negative polarity. 5–9mA, 825ohm in series.
15	Common return for pins 7, 13, 14, J1:16 and (J1:24, see below).
4	Ground.
8	0 (Digital zero).
11	+5 Volt.
1	W2 Spare.
2	W3 Spare.
3	W4 Spare.
9	W5 Spare.
10	W6 Spare.
12	W7 Spare.

J6:	RS232 interface. 9p D–sub male. (Output refers to Cs6, signal 1, input to Cs13, signal 2.)		
1	W10	Spare.	
2	TXD1	Output.	Transmit Data.
3	RXD2	Input.	Receive Data. Port 1.
4	DTR2	Output	Data Terminal Ready.
5	GND	0V Digital zero.	
6	W11	Spare.	
7	W12	Spare.	
8	CTS1	Input.	Clear To Send. Port 1.
9	W13	Spare.	

J1:	25p D-sub male connected to:	Cs3:= 1	0	2,3	Refers to Cs 13, signal 2.
8	PA Output, limit L	7	15	3	Synchronous output type 1. Cs2:+4.
9	PA Output, limit L	6	14	2	Clock for both synchronous outputs.
10	PA Output, limit L	5	13	1	
11	PA Output, limit L	4	12	0	
12	PA Output, limit L	3	11	11	Synchronous output type 2. Cs2:+8.
13	PA Output, limit L	2	10	10	
18	PA Output, limit L	1	9	9	
19	PA Output, limit L	0	8	8	
2	RD2 Opto isolated input. Receive Data. Negative at rest. 5–9mA, 825ohm in series.				
15	+RTS2 Opto isolated output. Ready To Send. On (negative) not ready. <25V, <5mA, Von <1V.				
5	+TX2 Opto isolated output. Transmit Data. On (negative) at rest. <25V, <5mA, Von <1V.				
4	CTS2 (DTR) Opto isolated input. Clear To Send. Negative not ready. 5–9mA, 825ohm in series.				
16	TARE Opto isolated input, negative polarity. 5–9mA, 825ohm in series.				
24	PRINT/TEST Opto isolated input, negative polarity. 5–9mA, 825ohm in series.				
24	U1272 only. PB4 Output for selected transducer. Low is transducer 1.				
1	Common return for pins 2, 4, (16 and 24 when J6 is not inserted).				
14	Common return for pins 5 and 15.				
22	PB Output overrange and buzzer.				
23	PB Output motion.				
7	CA1 Buffered, edge triggered switch for external transducer selection.				
6	CA2				
3	CB1				
25	CB2 Output overrange.				
17	Ground.				
21	0 (Digital zero).				
20	+5 Volt.				

Conditions for non opto isolated PIA signals. Never use voltages higher than the internal +5V or below 0.

Inputs:

PB, CA1, CB1, CB2.		I in max ±10uA.
PA, CA2.	V in = 2.4V	I in min –0.2mA.
	V in = 0.4V	I in max –2.4mA.

Outputs:

PB, CB2.	V out = 1.5V	I out min –1mA, max –10mA.