Processing Unit EC 100

Application	Processing unit for wheel load scales for measuring wheel and axle loads as well as total weights of vehicles and airplanes
Input	1...12 wheel load scales
Zero Taring	Zero check by key stroke in unloaded condition of the scales
Measurement	By key stroke with the vehicle on the scales
Calculation of overweights	Editable limits for 100 types of vehicles
Tare and Net Weight	Possibility of tare weight input. Net weight calculation and printout
Recording	By key stroke to store the results in the RAM and to operate the built in printer
Storing Capability	300 vehicles
Data in- and output	RS 232 C for scales and for data exchange with personal computer
Printout	Various forms, according to the option setting. Nine editable text lines
Power Supply	DC: 12V AC: 230V, 115V Optional with integrated rechargeable batteries for 24h operation
Housing	Portable housing. Water and dust proof IP 54 (DIN 40050, IEC 144)

Weight	7 kg 9 kg with integrated batteries
Scope of supply	1 processing unit EC100 1 mains cable 1 battery cable 1 operating manual 1 short form manual
Accessories	Refer to W9.100

Selection Chart

Ordering example: 1		**EC 100 / 2 8 1 . 3 2**		**/ 00Y**	**/2141**
Power supply	ex- and internal	2 7 1			
	external only	2 8 1			
Language	English		3 1 1		
	German		3 2 1		
	Spanish		3 3 1		
	French		3 4 1		
Measuring range	Automatic selection of meas. range			**00Y**	
Power cord	SEV (Switzerland)				**2140**
	VDE/UTE (Germany, France)				**2141**
	NEMA (USA, Canada)				**2142**
	BS (United Kingdom)				**2143**
	universal, without plug				**2149**

Design and Function

The processing unit EC 100 is continuously receiving the weights from the connected scales through the serial interface. If operated from a external power source it is charging the internal batteries as well as the batteries of the connected scales. The weights are stored and printed out by key stroke. The LCD's function is to guide the user through the program, as well as to show the actual weights. All stored data may be transferred to a personal computer for further processing. The editing of the text lines and the stored limits may be performed either using the keyboard or by file transfer from a personal computer.

Consumables

Designation		**Ordering No.**
Printing ribbon	for paper 58 mm	E 15400.2
Paper roll	58mm width	A 8161.0

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Technical Data

Parameter		Value
External supply	DC	10.8...16[1)]
	AC	230V, 115V /+10%, -15%
Internal power supply, 8 NiCd batteries	Operating time	24h
	Charging time	4h
Interface	Data exchange	RS 232C
	Supply for scales with current limitting	>5.5A
Power consumption	Without printing	<4W
	While printing	<8W
	Additionel per scale	<6W
Printer	Paper width	58mm
	Line spacing	3.6mm
	Characters per line	24
	Printing speed	1.6 lines/s
Display	Type	LCD dot matrix
	No of characters	16
	Height of characters	8mm
Keyboard	Type	membrane touch
	Number of keys	24
Temperature range	In operation	-5...50°C
	Storage	-25...60°C
Permissible relative humidity		<98%
Type of protection (closed cover)		IP 54 (DIN 50040, IEC 144)
Weight		7kg
	with integrated batteries	9kg
Dimensions	(WxHxD)	510mm x 190mm x 290mm

1) The complete charging of the batteries of the scales is not guaranteed with an input voltage lower than 12V

Options

The working mode of the EC100 is set by the following options

Option	Mode
no options set	Option 3 will be set automatically
Option 1	Printout of measurement Number
Option 2	Printout of wheel loads
Option 3	Printout of axle loads
Option 4	Overweights are calculated with tolerance deduction
Option 5	Calculation and printout of overweights
Option 6	Tare weight input
Option 7	Printout compulsory
Option 8	Storing of previous measurements
Option 9	Measurement in one operation (same Number of scales as wheels)
Option 10	Measurement of only one side of the vehicle (The wheel loads are multiplied by two)
Option 11	The menu for editing the printout text lines is enabled
Option 12	The menu for editing the limits is enabled
Option 13	The menu for editing the measuring results is enabled

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Examples of Protocols

1. Short protocol for axle weighing only (option 3, without sub totals)

```
DATE:            APR 18 95
TIME:                14:15

WEIGHTS:
AXLE  1            3350 kg
AXLE  2            4900 kg

GROSS              8250 kg
```

2. Short protocol for wheel weighing only (option 2, without sub totals)

```
DATE:            APR 18 95
TIME:                14:15

WEIGHTS:
WHEEL  1           1650 kg
WHEEL  2           1700 kg
WHEEL  3           2550 kg

GROSS              5900 kg
```

3. Complete protocol (options 1, 2, 3, 4, 5 and 6 set)

```
HAENNI MEASURING SYSTEMS
MEASUREMENT NO.:         3

DATE:            APR 18 95
TIME:                14:15

LOCATION:

DRIVERS SIGNATURE:

OFFICERS SIGNATURE:

USED LIMIT:
TRUCK TYPE Q (3 AXLES)

TOL. DEDUCT. PER SCALE:
    0- 2500 kg:     75 kg
 2550-10000 kg:    125 kg
     >10000 kg     175 kg

WEIGHTS:
WHEEL  1           1650 kg
WHEEL  2           1700 kg
WHEEL  3           2550 kg
WHEEL  4           2350 kg

AXLE  1            3350 kg
AXLE  2            4900 kg

SUBTOTAL  1        8250 kg

WHEEL  5           3750 kg
WHEEL  6           3850 kg

AXLE  3            7600 kg

GROSS             15850 kg
TARE               5500 kg
NET               10350 kg

OVERWEIGHTS:
(WITH TOL. DEDUCT.)
AXLE: 1
                    200 kg
AXLE: 3
                    350 kg
AXLE: 1,2,3
                    250 kg
```

4. Printout of the stored limit sets

```
01
TRUCK TYPE A (2 AXLES)
100000000000     5000
010000000000    11000
110000000000    15000

02
TRUCK TYPE B (3 AXLES)
100000000000     5000
010000000000    11000
001000000000    10000
111000000000    24000

03
TRUCK TYPE D (2/3 AXLES)
100000000000     5000
010000000000    11000
001000000000    10000
000100000000    10000
000010000000    10000
111110000000    24000

              .
              .

23
TRUCK TYPE Q (3 AXLES)
100000000000     3000
010000000000     5000
001000000000     7000
111000000000    15000
```

Editable text lines

Programmable limit sets

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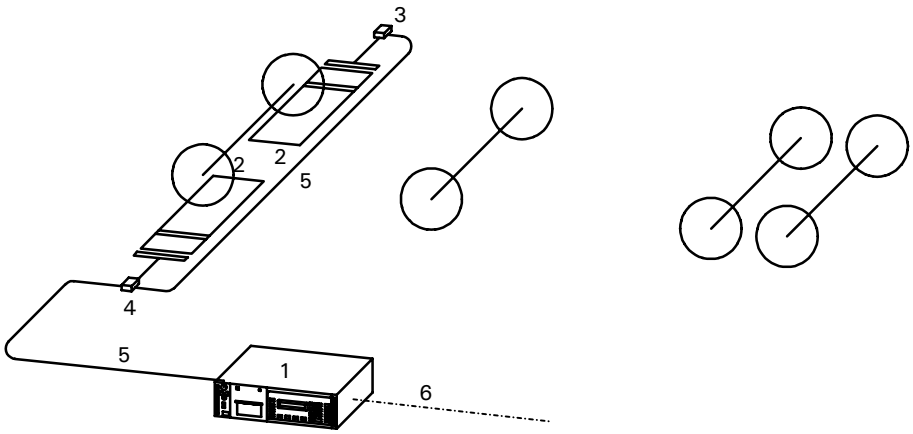
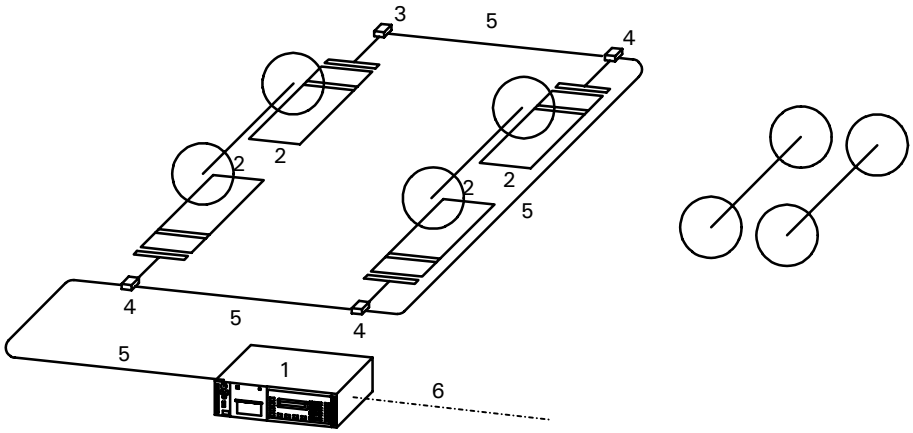
Examples of applications

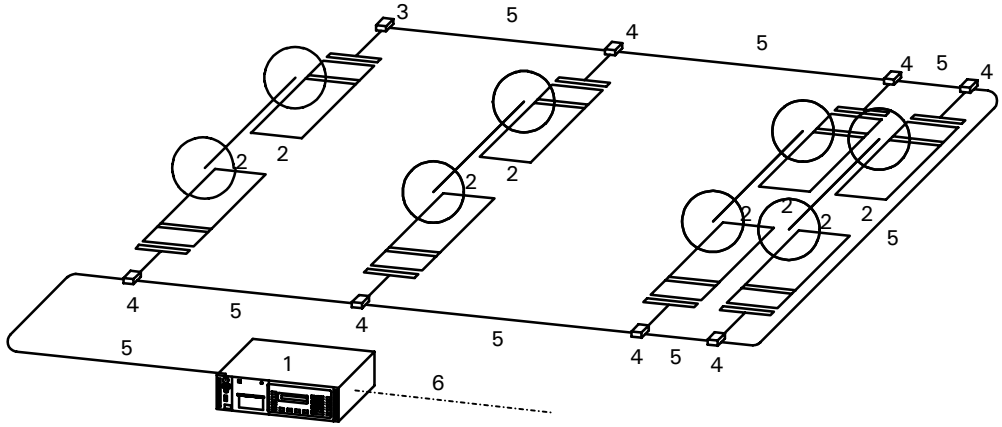
1. With two scales only, a vehicle can be measured axle by axle.



2. With more than one pair of scales axle groups can be measured in one operation.



3. With more than one pair of scales a vehicle can be measured in one operation. The Number of axles to be measured at the same time is limited to 6.



1: EC 100
2. Wheel load scale
3: Connecting box type 0
4: Connecting box type 1
5: Connecting cable (5m resp. 10m)
6: Connecting cable RS 232 to a personal computer

Application No. 1:
Instead of using two connecting boxes and two cables, one connecting cable type Y may be used.