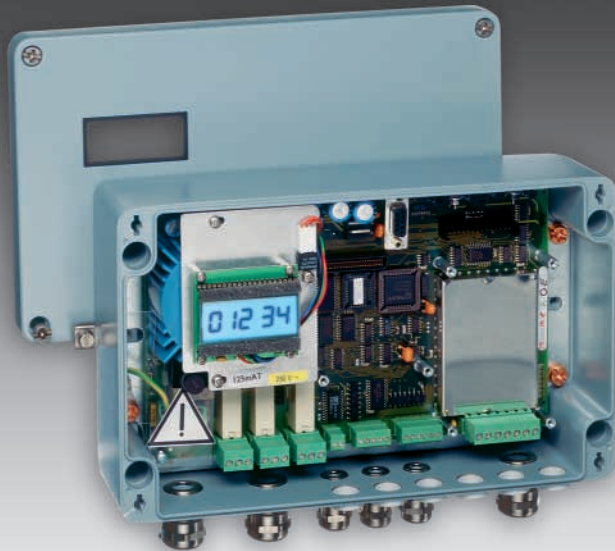




## PR 1720 Fieldbus Transmitter



- Profibus-DP, InterBus-S or DeviceNet (via PR 1721)
- Several load cells directly connectable (via PR 1722)
- Galvanically isolated analogue output (16 bit internal resolution)
- Accuracy of 3000e class III (acc. EN 45501)
- Serial communication interface (RS 232 or TTY or RS 485/422)
- 5-digit LCD weighing display
- IP 65 field housing
- 3 configurable inputs / 3 configurable outputs
- Userfriendly, menu-prompted configuration
- Calibration without weights (Smart Calibration)

### Product Profile

The PR 1720 Fieldbus Transmitter has features that guarantee:

- integral process automation to meet highest weighing requirements
- analogue, digital and bus-capable signals for automation systems
- connection of several load cells directly to the transmitter
- the possibility to operate the instrument and to monitor the weighing process locally

In addition various fieldbus and communication protocols, as well as serial interfaces, provide the flexibility needed for easy linkage to different automation systems.

### Description

The PR 1720 transmitter comes in an IP 65 field housing. Via the option PR 1722 an optional load cell connection sub-unit up to 4 load cells can be directly connected. The digital inputs and outputs, as well as the 16 bit analogue output, are galvanically isolated which guarantees the highest level of security.

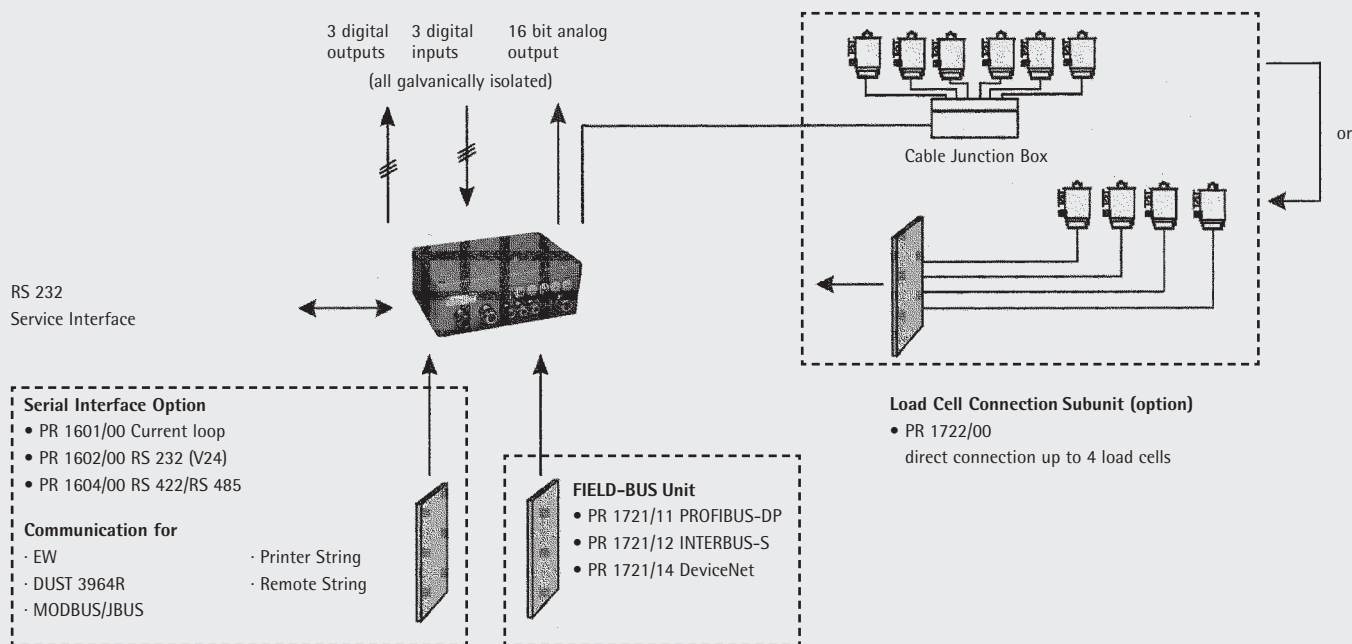
The userfriendly, menu-prompted configuration facilitates fast and easy installation. Smart Calibration allows the adjustment of the scale without any reference weights. When certified load cells are used the level of accuracy achieved reaches 'Weights and Measurements' standards.

All calibration and configuration parameters are stored in an EEPROM. This gives full protection against loss of data during a power failure. Also a back-up on PC is possible.

The RS 232 operating interface can be used for calibration and configuration functions. Alternatively, the whole of the transmitter's operations can be managed via this interface from a remote display. By adding the appropriate interface the PR 1720 can be integrated into a supervisory system. For this different protocols, as well as, fieldbus systems such as Profibus-DP, InterBus-S and DeviceNet are available.

### Benefits

- Higher up-time
- Lower maintenance costs
- High Flexibility
- Consistent results



## Technical Data

### Type of construction

Field housing, protection class IP 65

### Connection

Plugable screwblocks

### Configuration/Calibration

Via PC or Terminal, VT 100 compatible

### Power Supply

115/230 V<sub>AC</sub> (+10/-15 %)  
Power Consumption: 14 VA  
Option: 24 V<sub>AC</sub>, 12 VA

### Display

Display: 5 digits, 7-segment LCD  
Height: 10.2 mm  
Viewing area: 45.7 x 17.7 mm

### Operating interface

9-pole D-SUB connector RS 232,  
9.6 kBd for PC or terminal;  
Functions: calibration, configuration,  
monitoring, remote display

### Communication interface

RS 232, RS 422/485 or current loop  
(optional, see order number)  
Maximum Baudrate: 19.2 kB  
(4.8 kBd for CL)

### Protocols

EW-Bus, Remote display, Modbus/Jbus, Dust  
3964R, Siemens 3964R-RK512,  
Fieldbus via PR 1721:

- PROFIBUS-DP
- InterBus-S
- DeviceNet

### Analogue output

Internal resolution: 16 bit, usable stepwidth  
0.5 µA, galvanically isolated, 0/4 to 20 mA,  
max. burden 500 Ω; configurable for various  
weights (e.g. G, N, T, D)  
Update rate: proportional to the measuring  
time

### 3 Control inputs

Optodecoupled  
0-5 V (status 0); 10 to 31 V<sub>DC</sub>  
(status 1); (active or passive)

### 3 Control outputs

Via relays, 1250 VA,  
Contact duty 250 V<sub>AC</sub> max.  
Derating for DC:

- 250 V<sub>DC</sub>/0,3 A
- 100 V<sub>DC</sub>/0,5 A
- 50 V<sub>DC</sub>/1,5 A
- 30 V<sub>DC</sub>/5 A

for 1720/60: opto outputs

### Accuracy class

3000 e class III acc. EN 45501  
(resp. OIML R76)

### Load cell connection

All strain gauge load cells, 6 or 4 wire  
connection possible; Via PR 1722: up to 4  
load cells directly connectable (option)

### Load impedance

min. 87.5 Ω  
e.g. 6 load cells with 600 Ω each or  
4 load cells with 350 Ω each

### Load cell supply

12 V<sub>DC</sub>

### Measuring principle

A/D conversion:  
integrating converter,  
ratiometric to LC supply  
Conversion rate: 50 ms  
Measuring time: 100 ms or multiples

### Input signal

Total range: 0 to 36 mV  
1,2 µV/e for W&M applications (3000 e)  
0,4 µV/d for industrial applications

### Dead load range

36 mV (max. span)  
Span and deadload adjustment via  
software during calibration

### Resolution (internal)

0.16 µV/count;  
> 75,000 counts for 12 mV  
> 210,000 counts for 36 mV

### Analogue filter

Active Butterworth, 40 dB/decade,  
2 Hz cut-off frequency

### Linearity

< 0.007 %

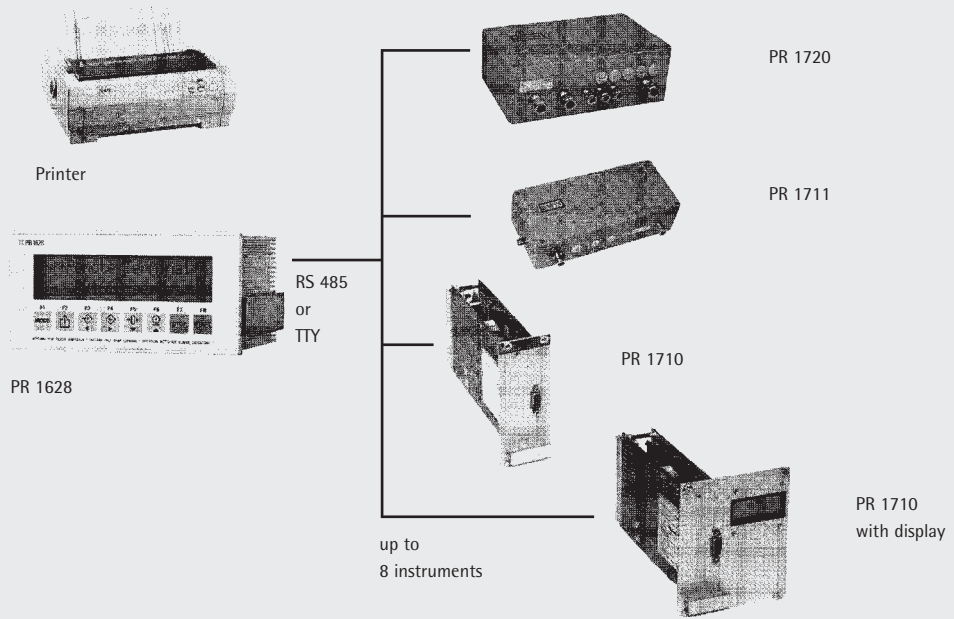
### Temperature effects

TK<sub>0</sub> < 1 µV/10 K  
TK<sub>spn</sub> < 0.006 %/10 K

### Net weight / shipping weight

3.5 kg / 4.8 kg

Control of several transmitter via one  
PR 1628 remote display (up to 8 instruments)



**Environmental Conditions**

**Vibration safety**  
According to IEC 68-2-6, test Fc

**Static discharge**  
According to IEC 1000-4-2

**Electromagnetic fields**  
According to IEC 1000-4-3  
26 MHz to 1 GHz

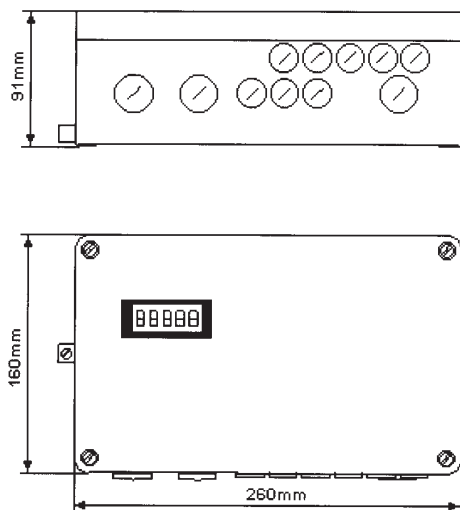
**Interference on mains and inputs/outputs**  
According to IEC 1000-4-4

**Radio noise suppression**  
According to EN 55011

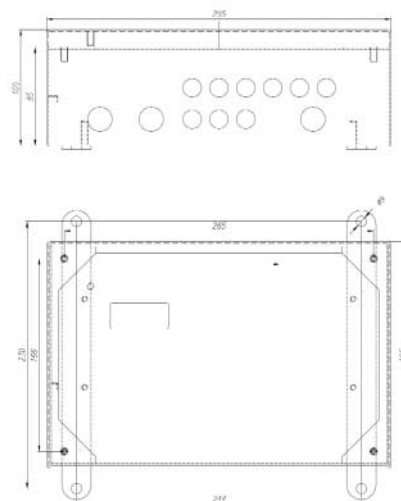
**Electrical safety**  
IEC 1010-1

**Temperature range**  
Operation: -10° C to +55° C  
Storage: -40° C to +70° C

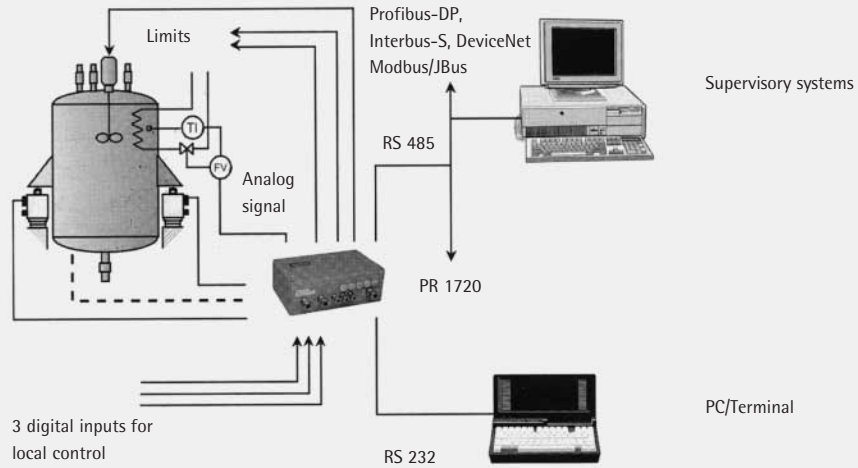
Dimensions PR 1720/00, /01, /60



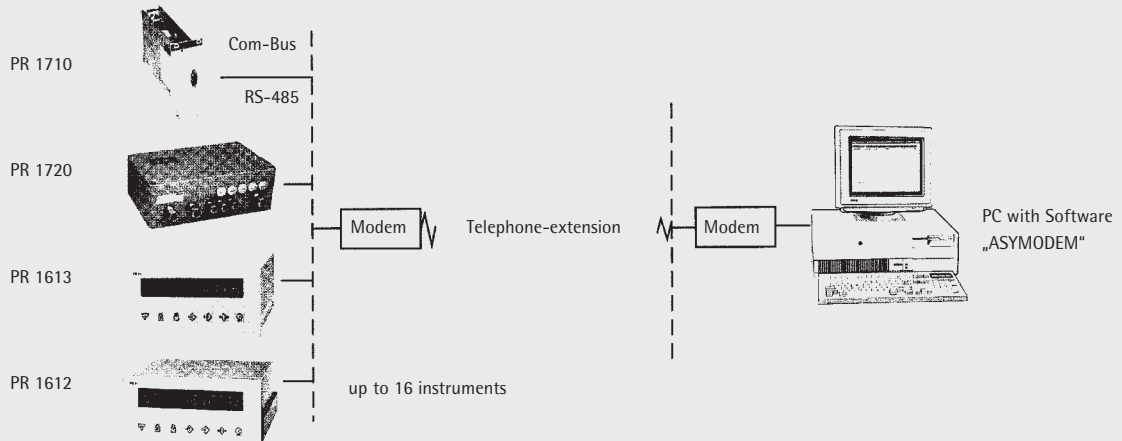
PR 1720/10, /11



Typical application using a PR 1720/xx



Remote control via ASYMODEM software (up to 16 instruments)



### Order information

Type	Description	Order numbers
PR 1720/00	Fieldbus Transmitter	9405 117 20001
PR 1720/01	Fieldbus Transmitter, 24 V <sub>AC</sub>	9405 117 20011
PR 1720/10	Fieldbus Transmitter in stainless steel housing	9405 117 20101
PR 1720/11	Fieldbus Transmitter in stainless steel housing, 24 V <sub>AC</sub>	9405 117 20111
PR 1720/60	Fieldbus Transmitter for EX-Zone 2, 22	9405 117 20601

### Option

Type	Description	Order numbers
PR 1721/11	Profibus-DP	9405 117 21111
PR 1721/12	InterBus-S	9405 117 21121
PR 1721/14	DeviceNet	9405 117 21141
PR 1722/00	Load cell subunit	9405 117 22001
PR 1601/00	TTY-current loop	9405 116 01001
PR 1602/00	RS 232	9405 116 02001
PR 1604/00	RS 485/422	9405 116 04001