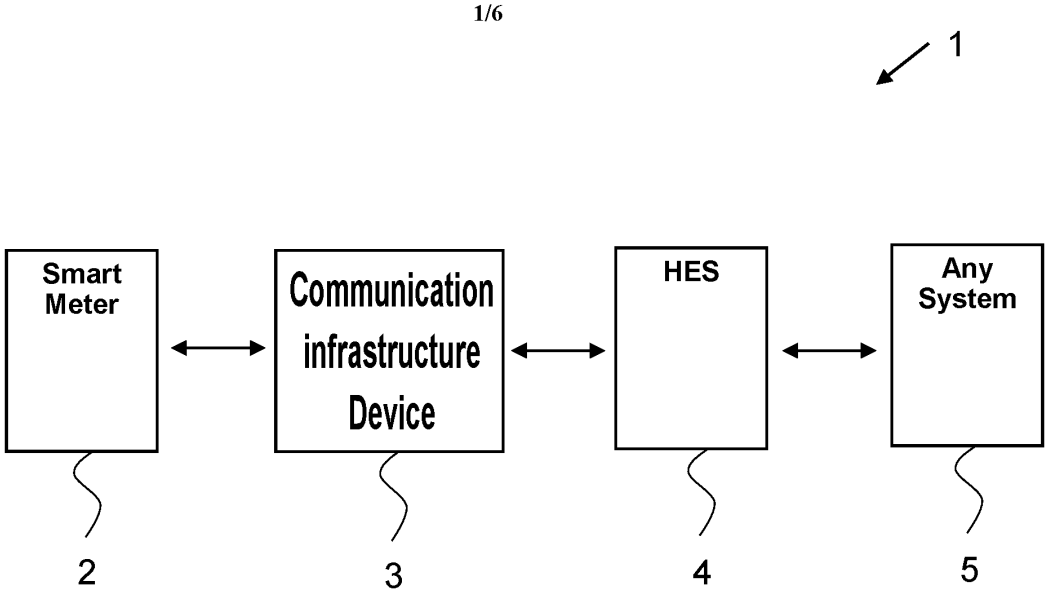

1
Smart Meter
Communication infrastructure Device
HES
Any System
2
3
4
5

Fig. 1

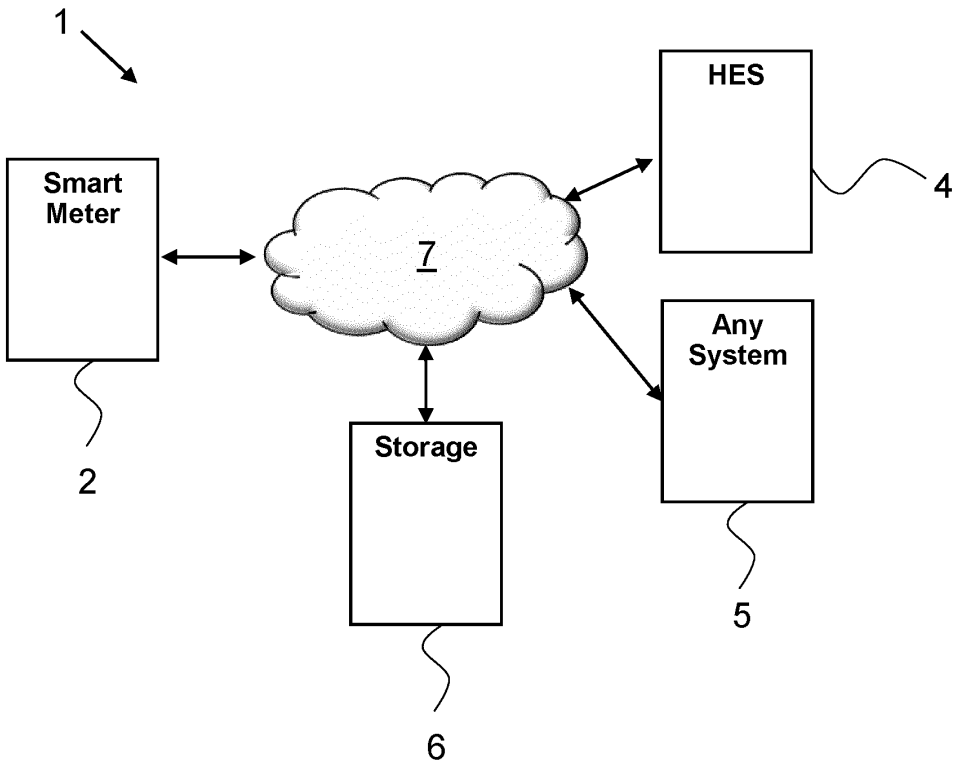
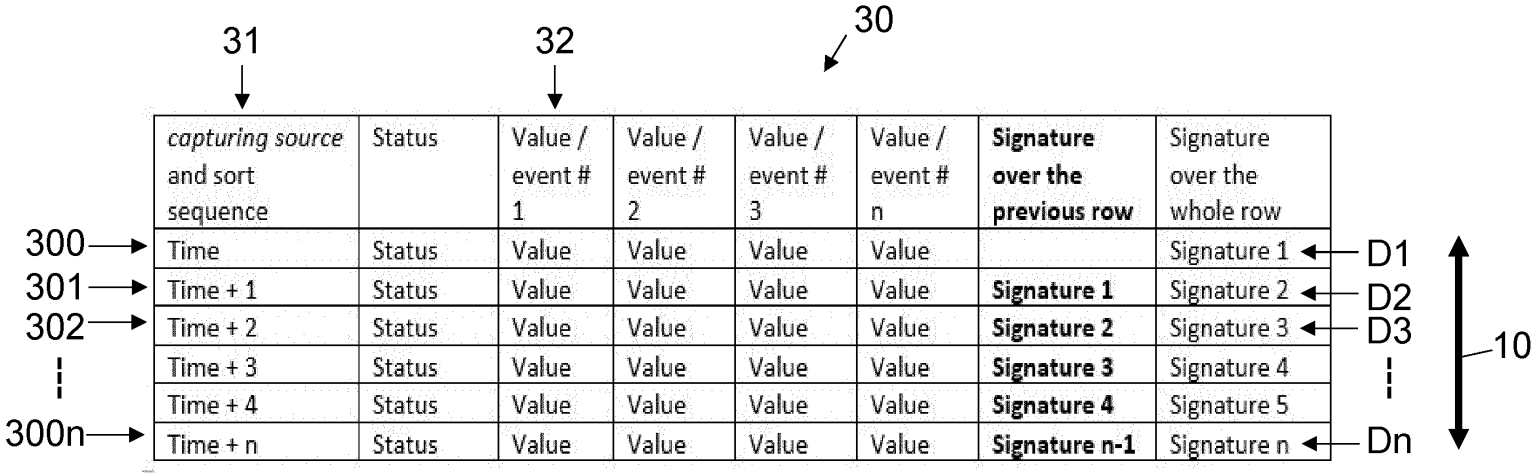
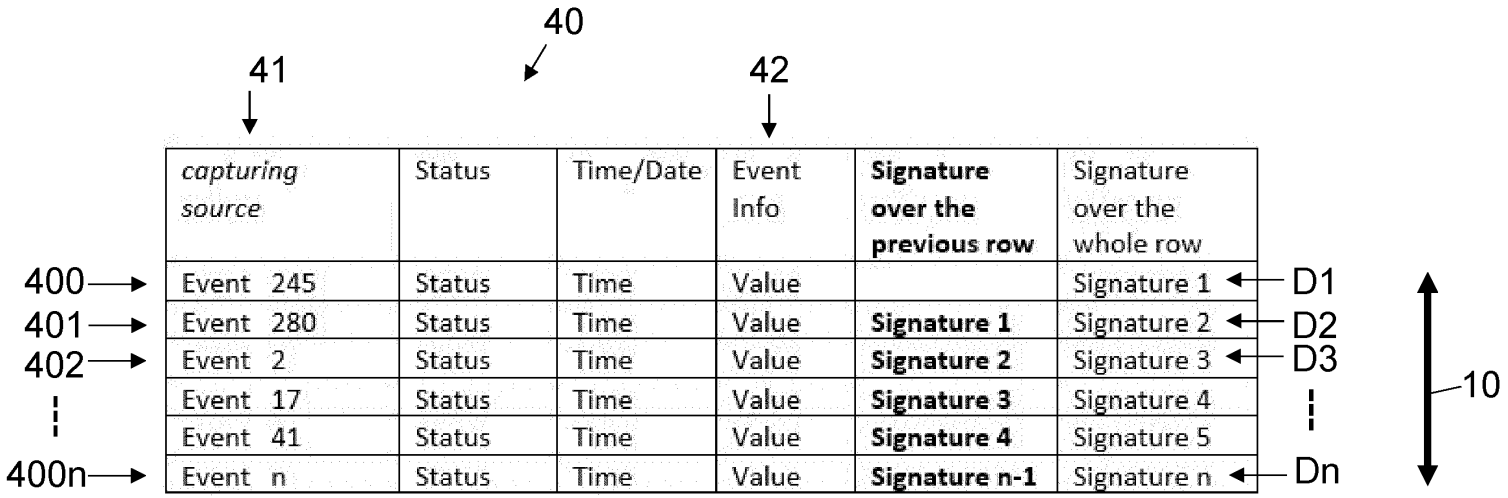

1
Smart Meter
7
HES
4
Any System
Storage
2
5
6

Fig. 2



capturing source and sort sequence	Status	Value / event # 1	Value / event # 2	Value / event # 3	Value / event # n	**Signature over the previous row**	Signature over the whole row
Time	Status	Value	Value	Value	Value		Signature 1
Time + 1	Status	Value	Value	Value	Value	**Signature 1**	Signature 2
Time + 2	Status	Value	Value	Value	Value	**Signature 2**	Signature 3
Time + 3	Status	Value	Value	Value	Value	**Signature 3**	Signature 4
Time + 4	Status	Value	Value	Value	Value	**Signature 4**	Signature 5
Time + n	Status	Value	Value	Value	Value	**Signature n-1**	Signature n

Fig. 3



capturing source	Status	Time/Date	Event Info	**Signature over the previous row**	Signature over the whole row
Event 245	Status	Time	Value		Signature 1
Event 280	Status	Time	Value	**Signature 1**	Signature 2
Event 2	Status	Time	Value	**Signature 2**	Signature 3
Event 17	Status	Time	Value	**Signature 3**	Signature 4
Event 41	Status	Time	Value	**Signature 4**	Signature 5
Event n	Status	Time	Value	**Signature n-1**	Signature n

Fig. 4

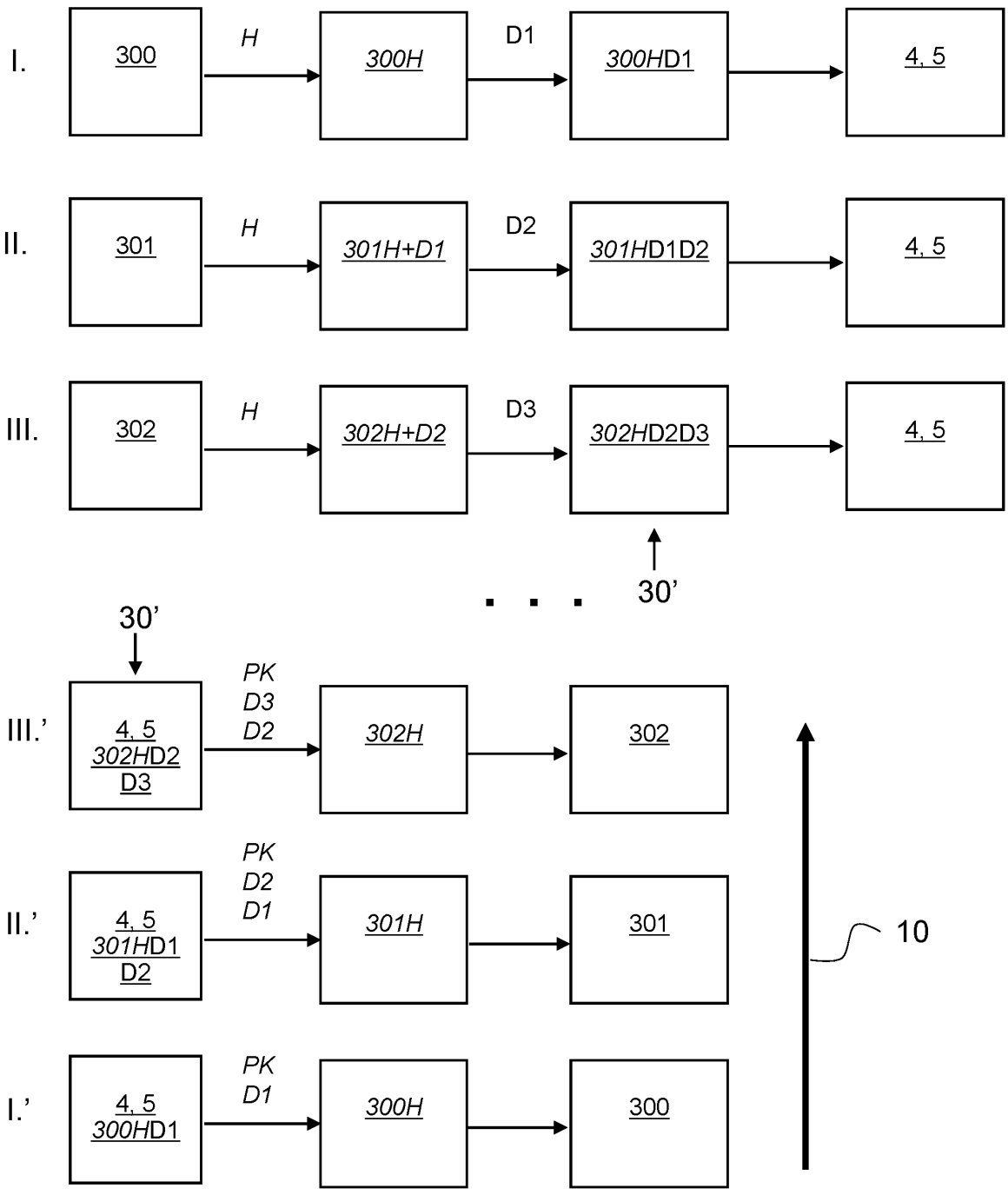

I.
300
H
300H
D1
300HD1
4, 5
II.
301
H
301H+D1
D2
301HD1D2
4, 5
III.
302
H
302H+D2
D3
302HD2D3
4, 5
30'
. . .
30'
III.'
4, 5
302HD2
D3
PK
D3
D2
302H
302
II.'
4, 5
301HD1
D2
PK
D2
D1
301H
301
I.'
4, 5
300HD1
PK
D1
300H
300
10

Fig. 5

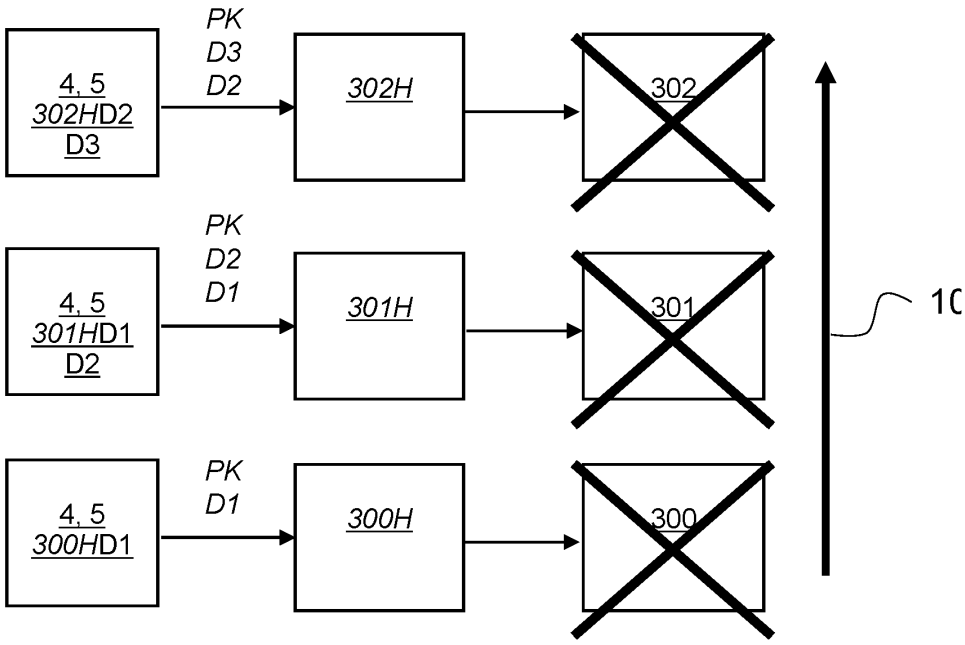

4, 5
302HD2
D3
PK
D3
D2
302H
302
4, 5
301HD1
D2
PK
D2
D1
301H
301
4, 5
300HD1
PK
D1
300H
300
10

Fig. 6

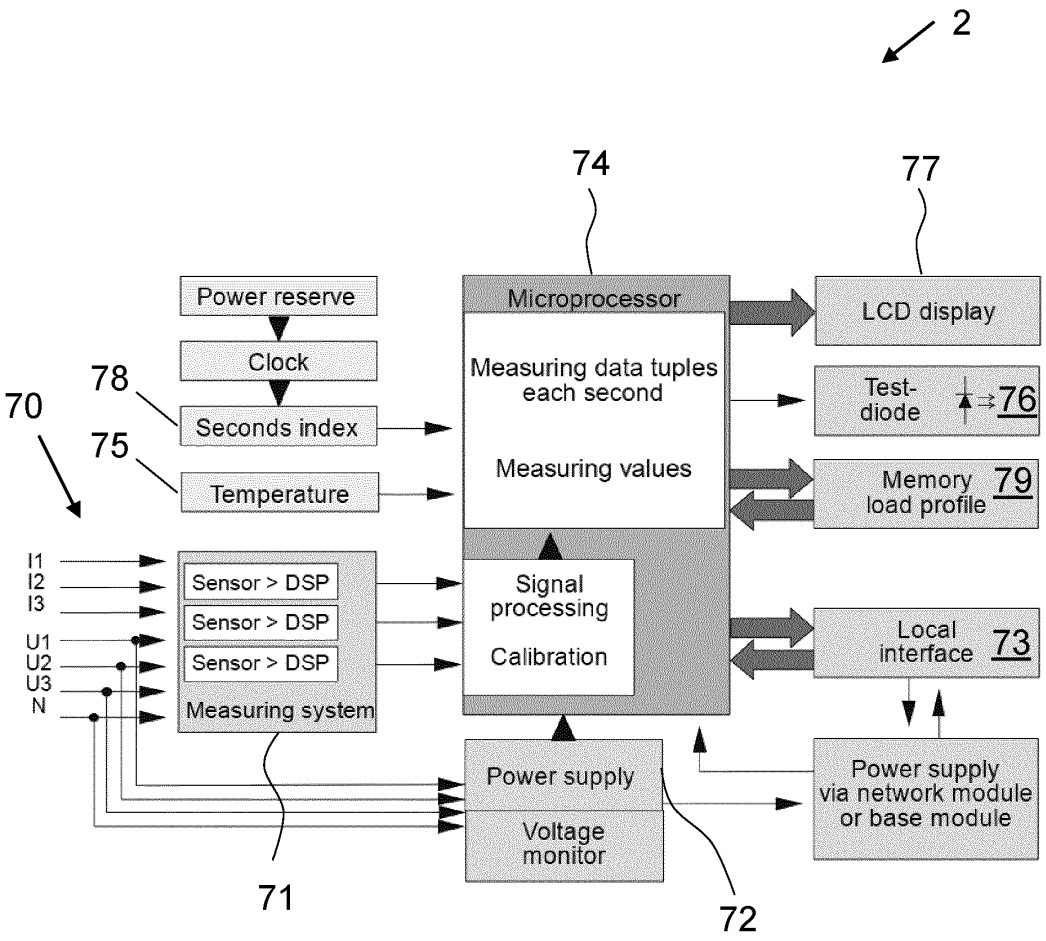

2
74
77
Power reserve
Clock
78
Seconds index
70
75
Temperature
Microprocessor
Measuring data tuples each second
Measuring values
LCD display
Test-diode
76
Memory load profile
79
I1
I2
I3
U1
U2
U3
N
Sensor > DSP
Sensor > DSP
Sensor > DSP
Measuring system
Signal processing
Calibration
Local interface
73
Power supply
Voltage monitor
Power supply via network module or base module
71
72

Fig. 7

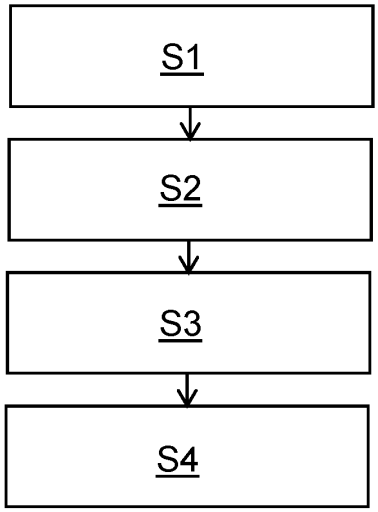


Fig. 8