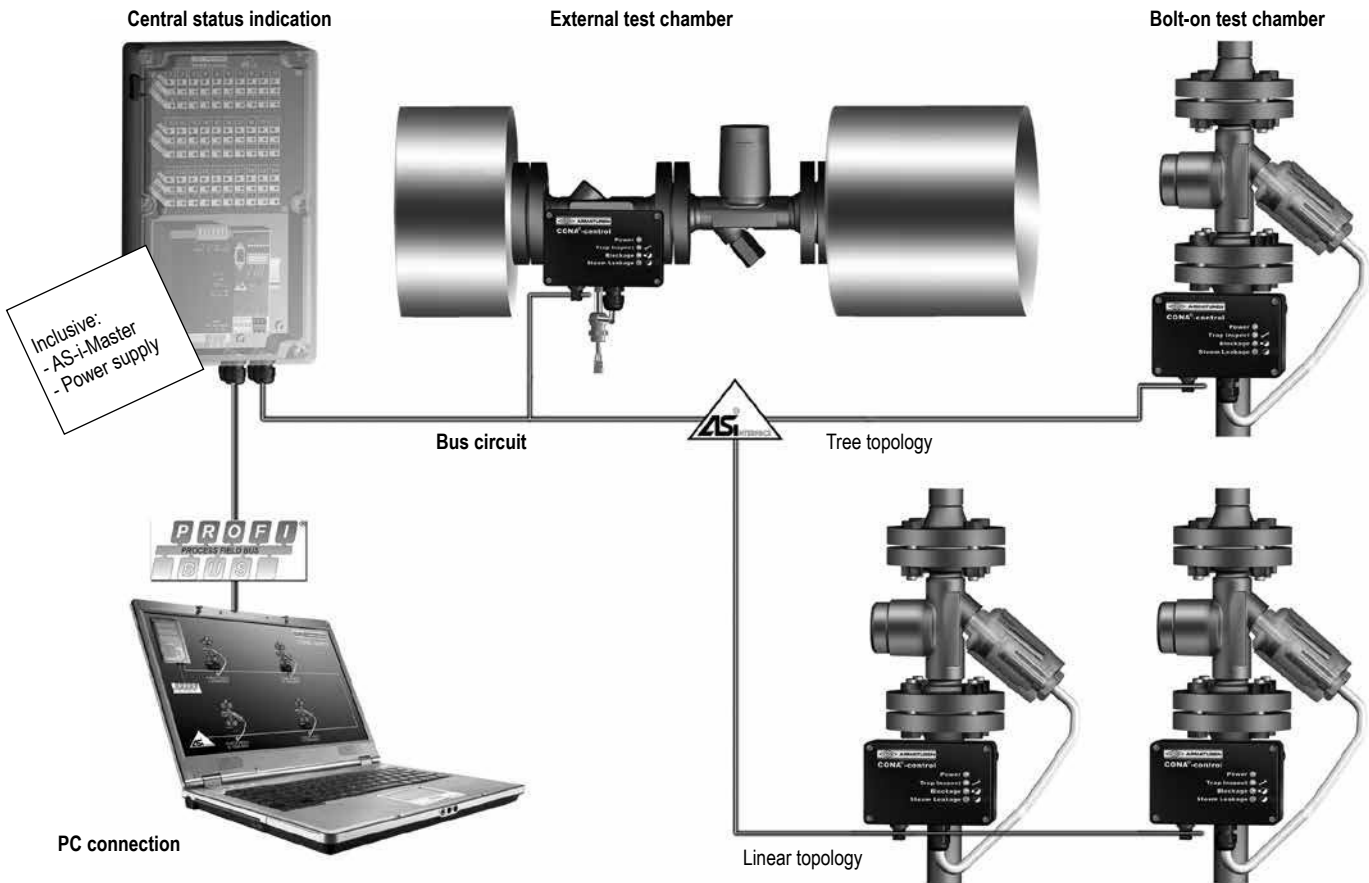
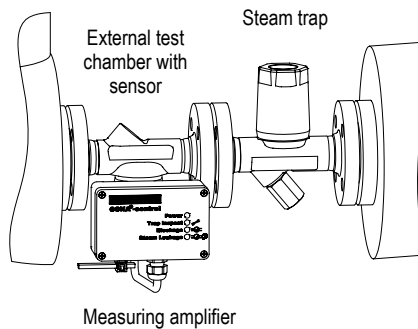


CONA®-control - Monitoring system for steam traps

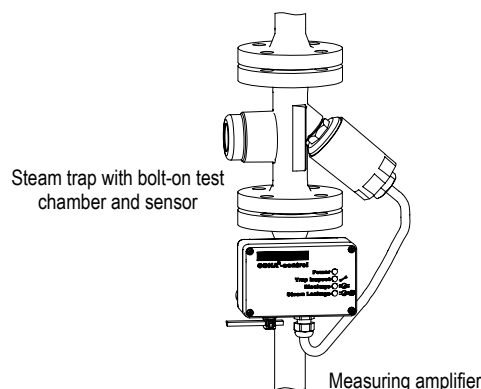


**External test chamber**

- with flanges (Fig. 685....1)
- with screwed sockets (Fig. 685....2)
- with socket weld ends (Fig. 685....3)
- with butt weld ends (Fig. 685....4)



**Bolt-on test chamber (as option for ARI-CONA®)**

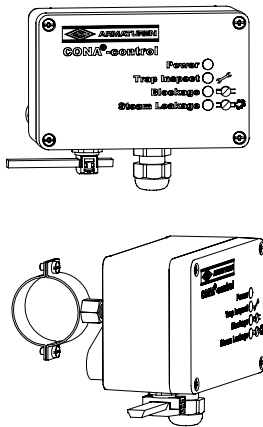


**Features:**

- Identification of failed steam traps
  - Leaking steam trap (energy wastage)
  - Blocked steam traps (poor plant performance)
- Patent applied, safe temperature sensor
- Local indication of maintenance requirement
- Continuous monitoring of trap performance for instant indication of failure
- External chamber and sensor may be used on all types and makes of steam trap
- Network compatible by AS-i-Bus linking of chambers and sensors (optional)
- Single operation with relay outputs (optional)
- AS-i-Bus gives the opportunity for visual display (optional)

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www.wtmi-usa.com

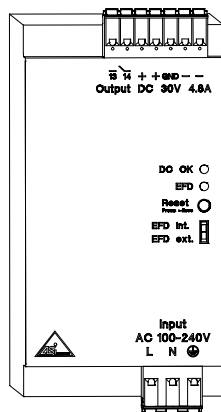
Measuring amplifier



- Indication of operating status for the supervising steam traps by LED's
- Adjustable category temperature for „Blockage“ indication
- AS-i-bus system option (necessary for connection to the central status indication)
- Optionally single operation with relay outputs (evaluation e.g. over SPS possible)
- Measuring amplifier required for each test chamber
- Maybe wall or panel mounted
- Maximum distance to the sensor approx. 1m

| Technical data              |                         |
|-----------------------------|-------------------------|
| Ambient temperature:        | 0 up to +70°C           |
| Supply voltage:             | 18-36VDC or by AS-i-Bus |
| Dimensions of body (HxWxD): | 75 x 125 x 60mm         |
| Body material:              | Aluminum                |
| Enclosure:                  | IP65                    |
| Current consumption:        | <100 mA                 |

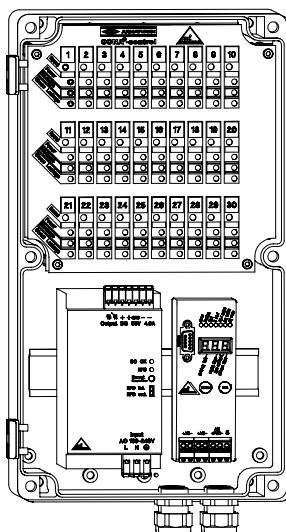
Power supply



- AS-i-Bus compatible
- Built-in appliance for mounting on a profile in the control cabinet

| Technical data       |  |
|----------------------|--|
| Supply voltage:      | 100 V AC - 240V AC 45-65Hz               |
| Output voltage:      | 30V DC                                   |
| Ambient temperature: | -25 up to +70°C                          |
| Input fuse:          | 5 A slow fuse                            |
| Output current:      | 4,8 A                                    |
| Enclosure:           | IP20                                     |
| Current consumption: | approx. 2,1 A (120 V AC) / 1A (230 V AC) |
| Weight:              | 0,9 kg                                   |

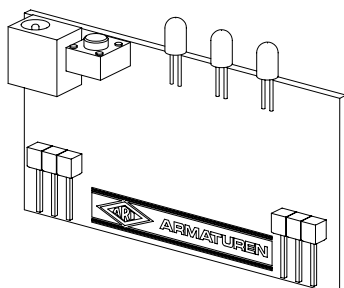
Central status indication



- Central status indication of up to 30 steam traps
- Connection of measuring amplifier by AS-i-Bus
- Integrated AS-i-Master/Gateway
- Integrated power supply for AS-i-Bus system
- One indication card necessary for each measuring amplifier

| Technical data                       |   |
|--------------------------------------|---|
| Internal Bus-system for steam traps: | AS-i-Bus                                    |
| Interface for superior systems:      | Profibus DP<br>other Bus systems on request |
| Ambient temperature:                 | 0 to +50°C                                  |
| Supply voltage:                      | 100-240 V ~<br>optional: 24 V ~             |
| Dimensions of body (HxWxD):          | 360 x 200 x 160mm                           |
| Body material:                       | PC/ABS                                      |
| Enclosure:                           | IP65  |

Indication card



- Indication card for the central status indication
- Indication of operation standards „Blockage“ and „Steam Leakage“ of the connected steam traps by AS-i-Bus
- Reset button for one or all error messages

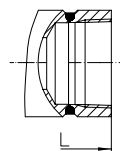
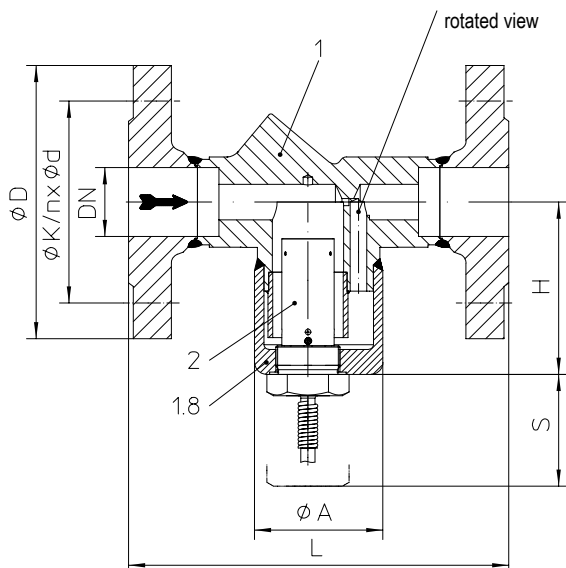
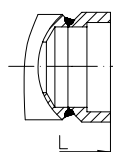
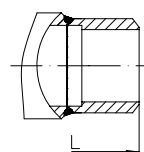
**External test chamber (Forged steel, Stainless steel)**

 Fig. 685...2  
 with screwed sockets

 Fig. 685...3  
 with socket weld ends

 Fig. 685...4  
 with butt weld ends

Fig. 685...1 with flanges

| Figure | Nominal pressure | Material | Nominal diameter / NPS | Operating pressure PS | Inlet temperature TS |
|--------|------------------|----------|------------------------|-----------------------|----------------------|
| 45.685 | PN40             | 1.0460   | DN15-25 / 1/2" - 1"    | 32 barg               | 250 °C               |
| 55.685 | PN40             | 1.4541   | DN15-25 / 1/2" - 1"    | 32 barg               | 250 °C               |

DIN/EN-Constructions refer to data sheet CONA®-control ANSI

**Types of connection** Other types of connection on request.

- Flanges ....1 \_\_\_\_\_ acc. to DIN EN 1092-1
- Screwed sockets ....2 \_\_\_\_ Rp thread acc. to DIN EN 10226-1 or NPT thread acc. to ANSI B1.20.1
- Socket weld ends ....3 \_\_\_\_ acc. to DIN EN 12760
- Butt weld ends ....4 \_\_\_\_ Weld preparation acc. to EN ISO 9692 identification No. 1.3 and 1.5  
 (Note restriction on operating pressure / inlet temperature depending to design!)

**Features**

- Installation directly in front of the steam trap
- Patent applied, integrated temperature sensor
- Installation position: horizontal, cap downwards!
- Applicable for ball float steam traps CONA S/SC, steam traps of other manufacturers or if a steam trap with screen is necessary

| Types of connection | Flanges |      |      | Screwed sockets<br>Socket weld ends |      |      | Butt weld ends |      |      |    |
|---------------------|---------|------|------|-------------------------------------|------|------|----------------|------|------|----|
|                     | DN      | 15   | 20   | 25                                  | 15   | 20   | 25             | 15   | 20   | 25 |
| NPS                 |         | 1/2" | 3/4" | 1"                                  | 1/2" | 3/4" | 1"             | 1/2" | 3/4" | 1" |

**Face-to-face acc. to data sheet resp. customer request**

| L | (mm) | 15  | 20  | 25  | 15 | 20 | 25 | 15  | 20  | 25  |
|---|------|-----|-----|-----|----|----|----|-----|-----|-----|
|   |      | 150 | 150 | 160 | 95 | 95 | 95 | 250 | 250 | 250 |

**Dimensions**

|         | (mm)     | 15     | 20     | 25     | 15 | 20 | 25 | 15 | 20 | 25 |
|---------|----------|--------|--------|--------|----|----|----|----|----|----|
| H       |          | 73     | 73     | 73     | 73 | 73 | 76 | 73 | 73 | 73 |
| S       |          | 60     | 60     | 60     | 60 | 60 | 60 | 60 | 60 | 60 |
| SQR     |          | 54     | 54     | 54     | 54 | 54 | 54 | 54 | 54 | 54 |
| Ø D     |          | 95     | 105    | 115    | -- | -- | -- | -- | -- | -- |
| Ø K     |          | 65     | 75     | 85     | -- | -- | -- | -- | -- | -- |
| n x Ø d | (n x mm) | 4 x 14 | 4 x 14 | 4 x 14 | -- | -- | -- | -- | -- | -- |

**Weights**

| Fig. 685 | (approx.) (kg) | 15  | 20  | 25  | 15  | 20  | 25  | 15  | 20  | 25  |
|----------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|          |                | 3,2 | 3,2 | 4,2 | 1,7 | 1,6 | 2,1 | 2,2 | 2,3 | 2,4 |

**Parts**

| Pos. | Sp.p. | Description   | Fig. 45.685               | Fig. 55.685           |
|------|-------|---------------|---------------------------|-----------------------|
| 1    |       | Body          | P250GH, 1.0460            | X6CrNiTi18-10, 1.4541 |
| 1.8  |       | Cap Sensor    | X6CrNiTi18-10, 1.4541     |                       |
| 2    | x     | Sensor, cpl.  | X6CrNiMoTi17-12-2, 1.4571 |                       |
|      |       | ↳ Spare parts |                           |                       |

Information / restriction of technical rules need to be observed!

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

 Operating and installation instructions can be downloaded at [www.ari-armaturen.com](http://www.ari-armaturen.com)

External test chamber (Forged steel, Stainless steel)

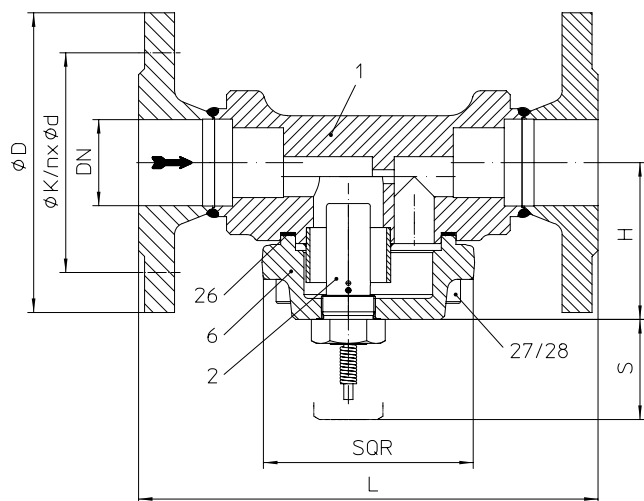


Fig. 685....1 with flanges

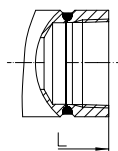


Fig. 685....2 with screwed sockets

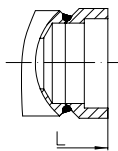


Fig. 685....3 with socket weld ends

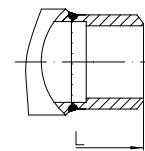


Fig. 685....4 with butt weld ends

| Figure | Nominal pressure | Material | Nominal diameter / NPS | Operating pressure PS | Inlet temperature TS |
|--------|------------------|----------|------------------------|-----------------------|----------------------|
| 45.685 | PN40             | 1.0460   | DN40-50 / 1 1/2" - 2"  | 32 barg               | 250 °C               |
| 55.685 | PN40             | 1.4541   | DN40-50 / 1 1/2" - 2"  | 32 barg               | 250 °C               |

DIN/EN-Constructions refer to data sheet CONA®-control ANSI

| Types of connection   | Other types of connection on request. |
|---|---------------------------------------|
| <ul style="list-style-type: none"> <li>Flanges ....1 _____ acc. to DIN EN 1092-1</li> <li>Screwed sockets ....2 _____ Rp thread acc. to DIN EN 10226-1 or NPT thread acc. to ANSI B1.20.1</li> <li>Socket weld ends ....3 _____ acc. to DIN EN 12760</li> <li>Butt weld ends ....4 _____ Weld preparation acc. to EN ISO 9692 identification No. 1.3 and 1.5 (Note restriction on operating pressure / inlet temperature depending to design!)</li> </ul> |                                       |

| Features  |
|---|
| <ul style="list-style-type: none"> <li>Installation directly in front of the steam trap</li> <li>Patent applied, integrated temperature sensor</li> <li>Installation position: horizontal, cap downwards!</li> <li>Applicable for ball float steam traps CONA S/SC, steam traps of other manufacturers or if a steam trap with screen is necessary</li> </ul> |

| Types of connection | Flanges |     | Screwed sockets<br>Socket weld ends |     | Butt weld ends |     |
|---------------------|---------|-----|-------------------------------------|-----|----------------|-----|
|                     | DN      | NPS | DN                                  | NPS | DN             | NPS |
|                     | 40      | 50  | 40                                  | 50  | 40             | 50  |
|                     | 1 1/2"  | 2"  | 1 1/2"                              | 2"  | 1 1/2"         | 2"  |

| Face-to-face acc. to data sheet resp. customer request |      |     |     |            |  |
|--|------|-----|-----|------------|--|
| L  | (mm) | 230 | 230 | on request |  |

| Dimensions |          |        |        |            |  |
|------------|----------|--------|--------|------------|--|
| H          | (mm)     | 78,5   | 78,5   | on request |  |
| S          | (mm)     | 60     | 60     |            |  |
| SQR        | (mm)     | 105    | 105    |            |  |
| Ø D        | (mm)     | 150    | 165    |            |  |
| Ø K        | (mm)     | 110    | 125    |            |  |
| n x Ø d    | (n x mm) | 4 x 18 | 4 x 18 |            |  |

| Weights  |           |      |     |      |            |
|----------|-----------|------|-----|------|------------|
| Fig. 685 | (approx.) | (kg) | 9,8 | 11,2 | on request |

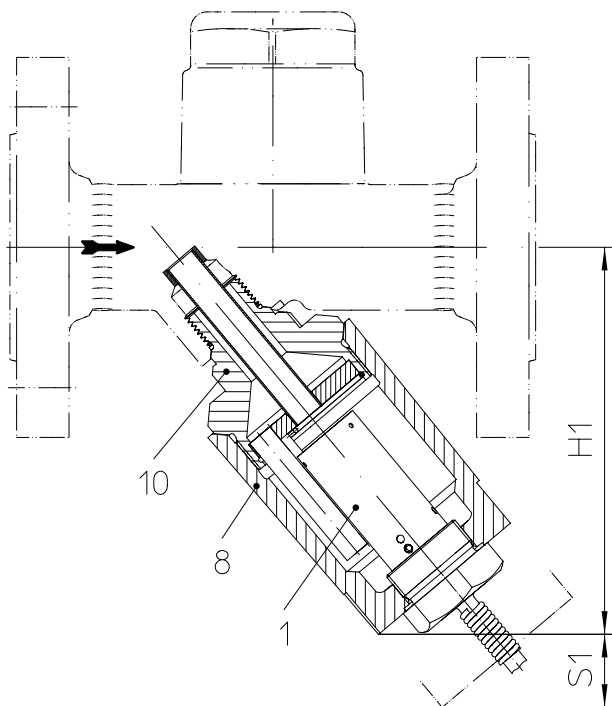
| Parts |               |                   |   |                       |  |
|-------|---------------|-------------------|---|-----------------------|--|
| Pos.  | Sp.p.         | Description       | Fig. 45.685                             | Fig. 55.685           |  |
| 1     |               | Body              | P250GH, 1.0460                          | X6CrNiTi18-10, 1.4541 |  |
| 2     | x             | Sensor, cpl.      | X6CrNiMoTi17-12-2, 1.4571               |                       |  |
| 6     |               | Cover Sensor      | P250GH, 1.0460                          | X6CrNiTi18-10, 1.4541 |  |
| 26    | x             | Sealing ring      | Graphite (CrNi laminated with graphite) |                       |  |
| 27    |               | Cheese head screw | 21CrMoV 5-7, 1.7709                     |                       |  |
| 28    |               | Hexagonal nut     | 21CrMoV 5-7, 1.7709                     |                       |  |
|       | L Spare parts |                   |   |                       |  |

Information / restriction of technical rules need to be observed!

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Operating and installation instructions can be downloaded at [www.ari-armaturen.com](http://www.ari-armaturen.com)

Bolt-on test chamber (Forged steel, Stainless steel)



Options Bolt-on test chamber

| Figure               | Nominal pressure | Material | Thread    | Operating pressure PS | Inlet temperature TS |
|----------------------|------------------|----------|-----------|-----------------------|----------------------|
| Bolt-on test chamber | PN40             | 1.0460   | M20 x 1,5 | 32 barg               | 250 °C               |
| Bolt-on test chamber | PN40             | 1.4541   | M20 x 1,5 | 32 barg               | 250 °C               |

DIN/EN-Constructions refer to data sheet CONA®-control ANSI

**Types of connection**

- Thread \_\_\_\_\_ M20 x 1,5 (for CONA steam traps)

**Features**

- Suitable for horizontal or vertical installation position of the steam traps; **Test chamber diagonally downwards!!**
- Patent applied, integrated temperature sensor
- Applicable for CONA B (Fig. 601) and CONA M (Fig. 612) with Y-body DN15-25 (design of the steam traps see corresponding data sheets)

| Types of connection | Thread           |
|---------------------|------------------|
| <b>Size</b>         | <b>M20 x 1,5</b> |

| Dimensions | Dimensions and weights of the CONA®-steam traps see corresponding data sheet |
|------------|--|
| H1 (mm)    | 117  |
| S1 (mm)    | 25   |

| Weights        |     |
|----------------|-----|
| (approx.) (kg) | 1,2 |

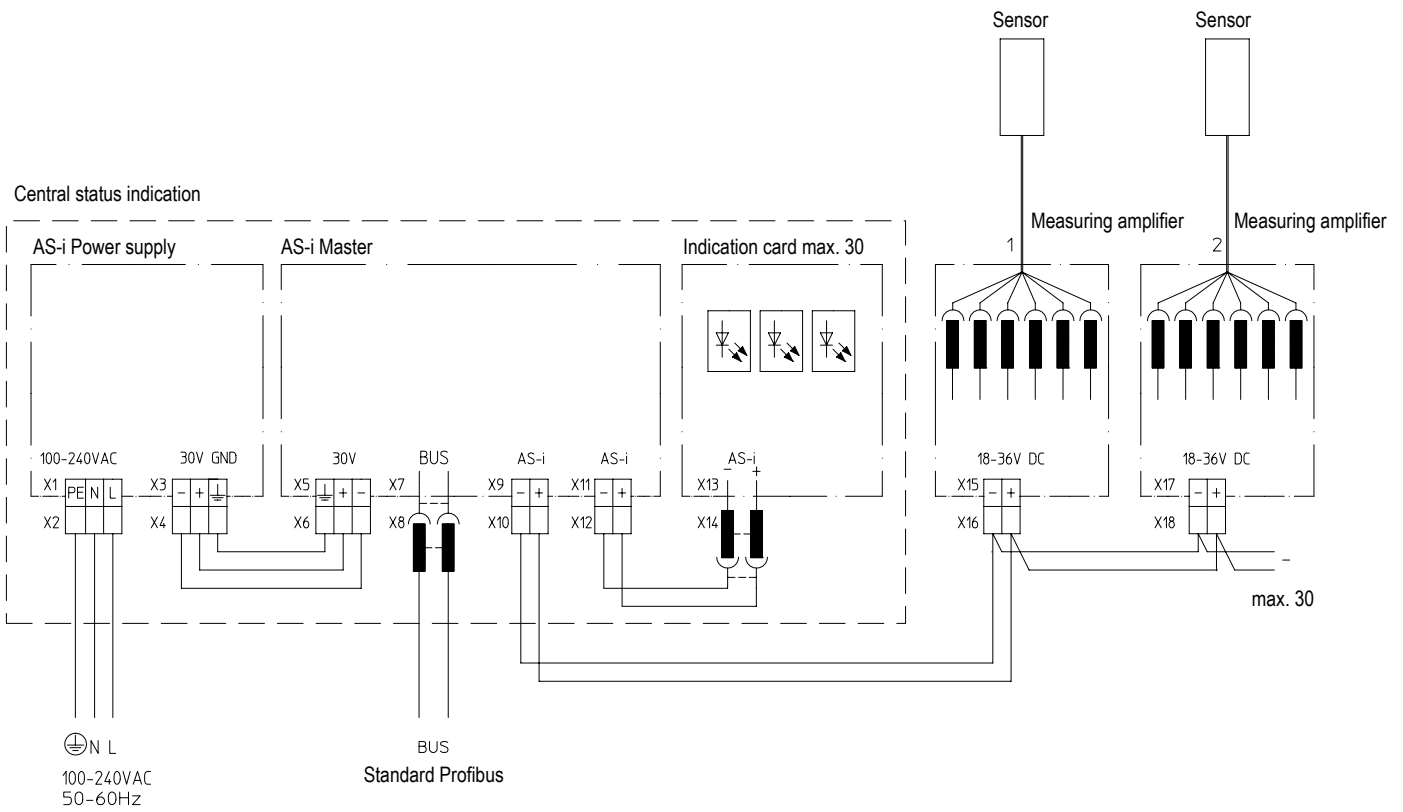
| Parts         |       |              |                                      |
|---------------|-------|--------------|--------------------------------------|
| Pos.          | Sp.p. | Description  | Options Bolt-on test chamber         |
| 1             | x     | Sensor, cpl. | X6CrNiMoTi17-12-2, 1.4571            |
| 8             |       | Cap Sensor   | P250GH, 1.0460 X6CrNiTi18-10, 1.4541 |
| 10            |       | Socket       | X6CrNiMoTi17-12-2, 1.4571            |
| ↳ Spare parts |       |              |                                      |

Information / restriction of technical rules need to be observed!

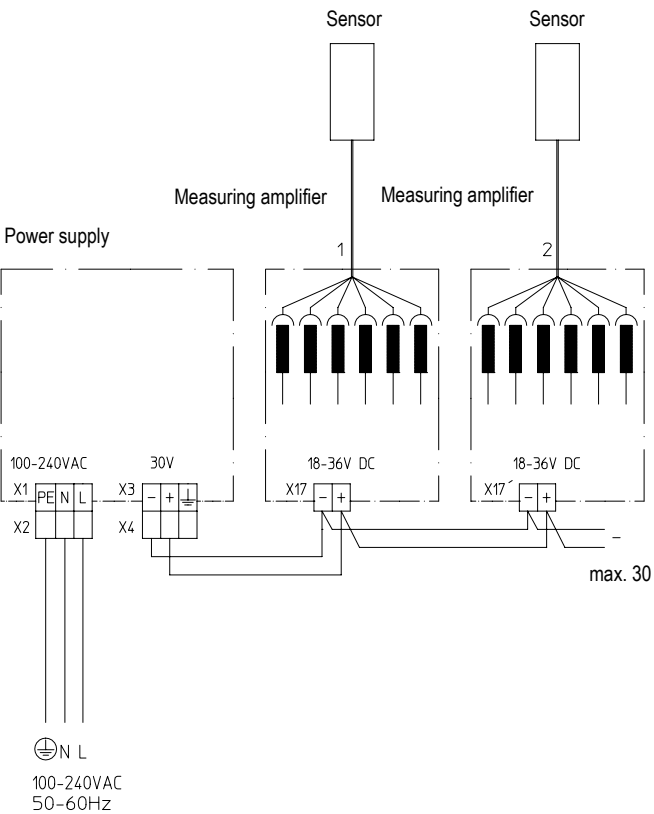
Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Operating and installation instructions can be downloaded at [www.ari-armaturen.com](http://www.ari-armaturen.com)

**Operation with central status indication**



**Single operation without central status indication**



**Single operation without central status indication with relay outputs**

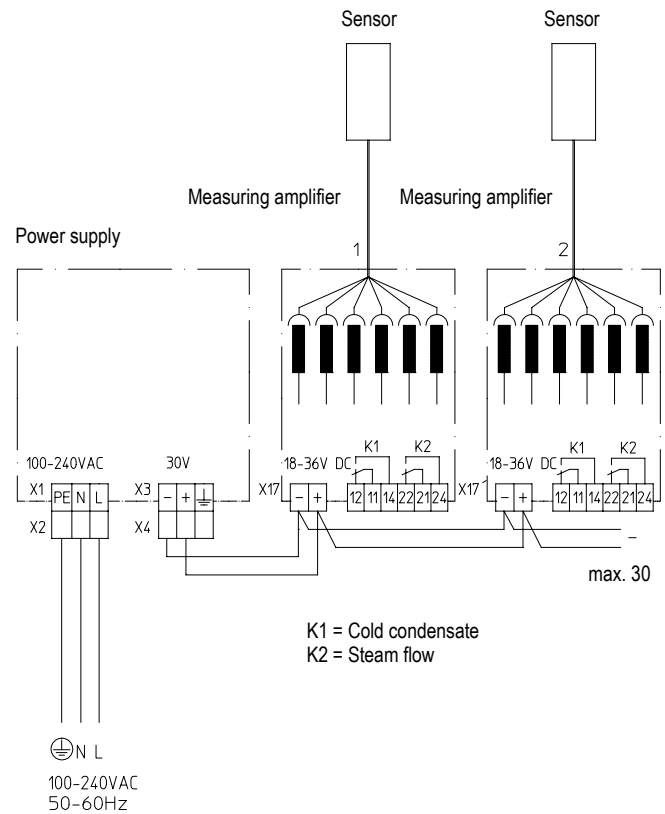
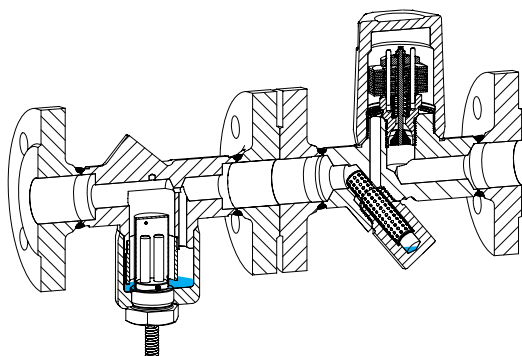


Illustration of test chamber and steam trap

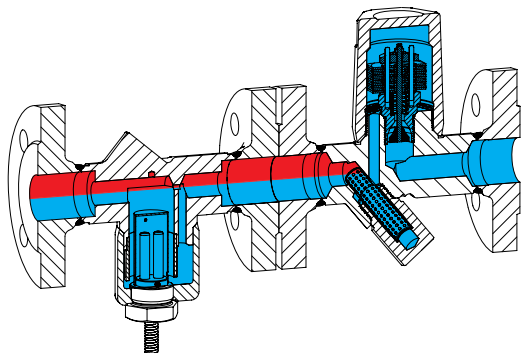
LED indication at the measuring amplifier - Indication by Bus

Operating status



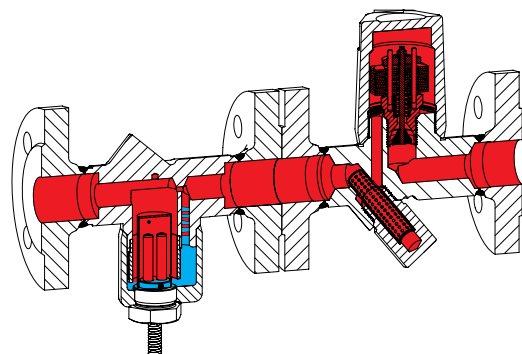
- Trap Inspect \*
- Blockage
- Steam Leakage

**System/steam trap not in operation**  
Sensor in cold air/steam and the temperature is below the specified temperature



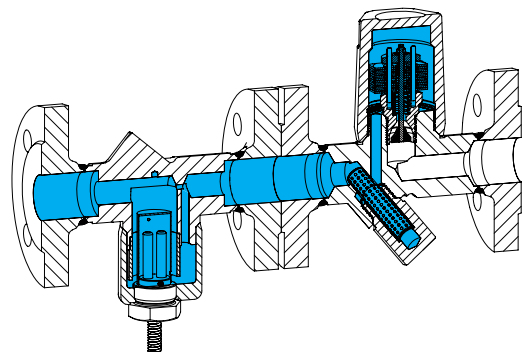
- Trap Inspect \*
- Blockage
- Steam Leakage

**Steam traps works correct**  
Sensor in hot condensate



- Trap Inspect \*
- Blockage
- Steam Leakage

**Steam leakage**  
Sensor in steam and the temperature is above the specified temperature



- Trap Inspect \*
- Blockage
- Steam Leakage

**Blocked steam trap**  
Sensor in cold condensate, the condensate is below the specified temperature

\* When using the „Central status indication“ the error will be saved and the LED „Trap Inspect“ is blinking.

## Informations about pipe welding

### Welding groove acc. to DIN 2559

|   |        |                                      |
|---|--------|--------------------------------------|
| The material used for ARI valves with butt weld ends are: | 1.0460 | P250GH acc. to DIN EN 10222-2        |
|   | 1.4541 | X6CrNiTi18-10 acc. to DIN EN 10222-5 |

**Note:** Note restriction on operating pressure / inlet temperature depending to design!

Due to our experience, we recommend to apply an electric welding process.

Because of the different material compositions and wall thickness of the steam traps and the pipe gas welding shall not be applied. Quenching cracks and coarse grain structure may develop.

Steam traps with socket-weld ends shall only be welded by arc welding (welding process 111 acc. to DIN EN 24063).

If during the time of warranty others than the manufacturer or by the manufacturer authorized persons are interfering in the product and/or the setting, the right of claim for warranty will lapse!

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