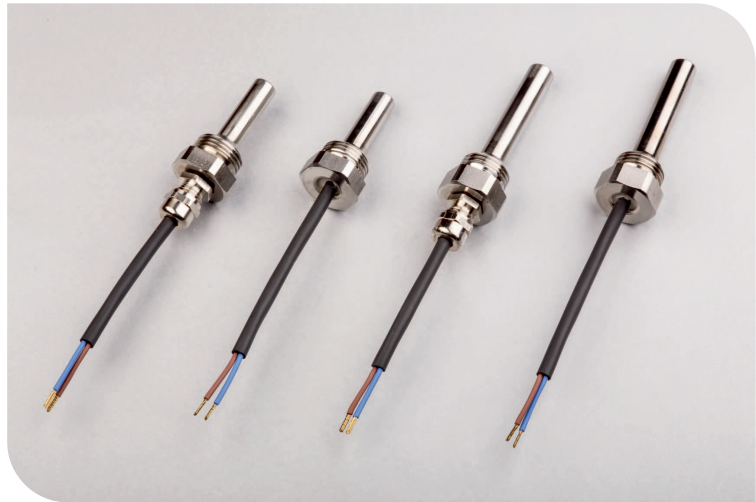


**ESH-Series Overview**

**Features**

- Wide variety of applications
- Compact design
- Exceptionally resistant stainless steel housing
- Robust construction
- Optimal heat transfer
- Available in different power - / temperature levels
- IP68 (with cable gland) \*\*\*

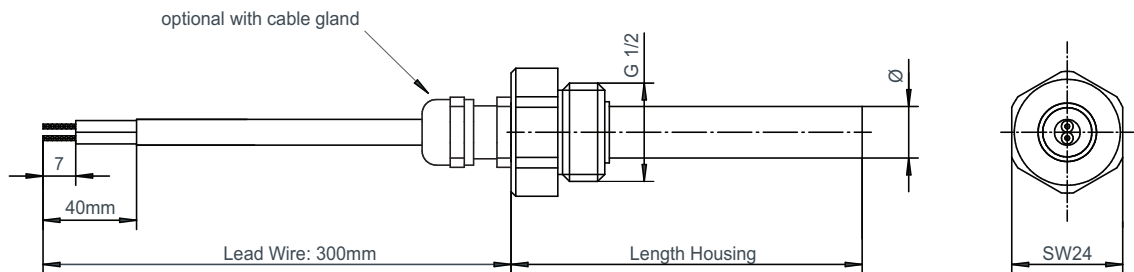


| Type                        | Ø    | Length of Housing | Power *<br>± 10% | Surface Temperature<br>± 10°C | Order No. **   |
|-----------------------------|------|-------------------|------------------|-------------------------------|----------------|
| ESH-110-75-XX<br>(110-240V) | 11mm | 75mm              | 36W              | 85°C                          | 395224,01 (02) |
|                             |      |                   | 46W              | 105°C                         | 395225,01 (02) |
|                             |      |                   | 78W              | 160°C                         | 395226,01 (02) |
|                             |      |                   | 97W              | 220°C                         | 395227,01 (02) |
| ESH-110-75-XX<br>(12-24V)   | 11mm | 75mm              | 28W              | 75°C                          | 395228,01 (02) |
|                             |      |                   | 40W              | 105°C                         | 395229,01 (02) |
|                             |      |                   | 74W              | 160°C                         | 395230,01 (02) |
|                             |      |                   | 98W              | 220°C                         | 395231,01 (02) |
| ESH-100-55-XX<br>(110-240V) | 10mm | 55mm              | 24W              | 80°C                          | 395232,01 (02) |
|                             |      |                   | 32W              | 105°C                         | 395233,01 (02) |
|                             |      |                   | 56W              | 155°C                         | 395234,01 (02) |
|                             |      |                   | 78W              | 215°C                         | 395235,01 (02) |
| ESH-100-55-XX<br>(12-24V)   | 10mm | 55mm              | 17W              | 70°C                          | 395236,01 (02) |
|                             |      |                   | 23W              | 105°C                         | 395237,01 (02) |
|                             |      |                   | 49W              | 150°C                         | 395238,01 (02) |
|                             |      |                   | 68W              | 210°C                         | 395239,01 (02) |

\* Power measured in ice water (~ 0 °C)

\*\* Available without cable fitting (Order No: xxx,01) or **glanded** (O.No: xxx,02; see drawing)

\*\*\* IP68 Test Conditions: Heater immersed in a 2m column of water for 48 Hrs



Electrical grounding has to be ensured by assembly.

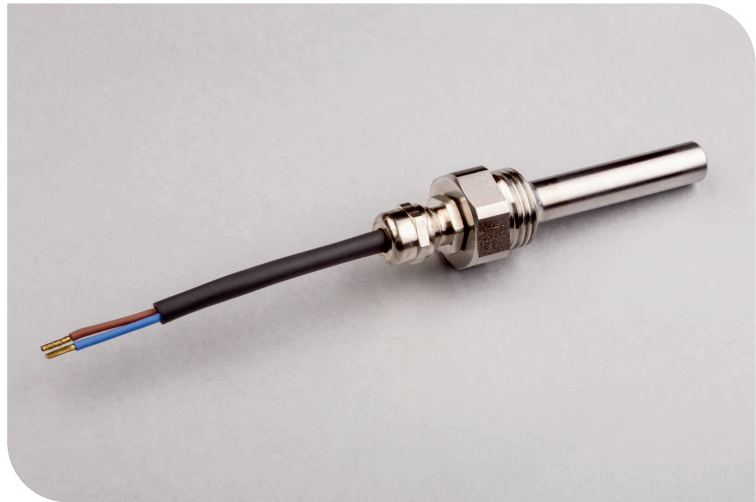
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**ESH-Series (ESH-110-75-XX-I/300)**

**Features**

- Wide variety of applications
- Compact design
- Exceptionally resistant stainless steel housing
- Robust construction
- Optimal heat transfer
- Available in different power - / temperature levels
- IP68 (with cable gland) \*\*\*

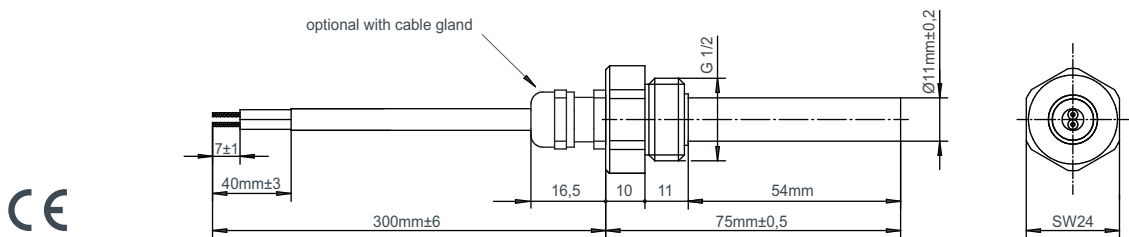


| Type, SampleNr.   | ESH (PTC-Liquid Heater)   |                               |                               |                               |
|---|---|-------------------------------|-------------------------------|-------------------------------|
|   | ESH-110-75-35-I/300; Nr. 1884   | ESH-110-75-35-I/300; Nr. 1885 | ESH-110-75-35-I/300; Nr. 1886 | ESH-110-75-28-I/300; Nr. 1887 |
| Operating Voltage   | 110-240V  |                               |                               |                               |
| Nominal Voltage   | 230V  |                               |                               |                               |
| Power * ±10%  | 36W   | 46W                           | 78W                           | 97W                           |
| Surface Temperature ±10°C measured on free air (~ 25°C) without airflow | 85°C  | 105°C                         | 160°C                         | 220°C                         |
| max. Inrush Current   | 1,5A  | 2A                            | 4,5A                          | 3A                            |
| Resistance at 25°C  | 305 - 630Ω  | 305 - 630Ω                    | 215 - 450Ω                    | 655 - 1180Ω                   |
| Max. Ambient Temperature  | +70°C   |                               |                               |                               |
| Diameter Housing  | 11mm  |                               |                               |                               |
| Length Housing  | 75mm  |                               |                               |                               |
| Material Housing  | stainless steel   |                               |                               |                               |
| Wire Type   | silicone-insulated multi-conductor cable 2x0,5mm <sup>2</sup> , Cu-tinned |                               |                               |                               |
| Wire Length   | 300mm   |                               |                               |                               |
| Connection  | wire end ferrule, CuZn unplated   |                               |                               |                               |
| Protection Class / Insulation Test Voltage                              | I / 2.500V  |                               |                               |                               |
| Order Nr. **  | 395224,01 (02)  | 395225,01 (02)                | 395226,01 (02)                | 395227,01 (02)                |

\* Power measured in ice water (~ 0 °C)

\*\* Available without cable fitting (Order No: xxx,01) or **glanded** (O.No: xxx,02; see drawing)

\*\*\* IP68 Test Conditions: Heater immersed in a 2m column of water for 48 Hrs



Electrical grounding has to be ensured by assembly.

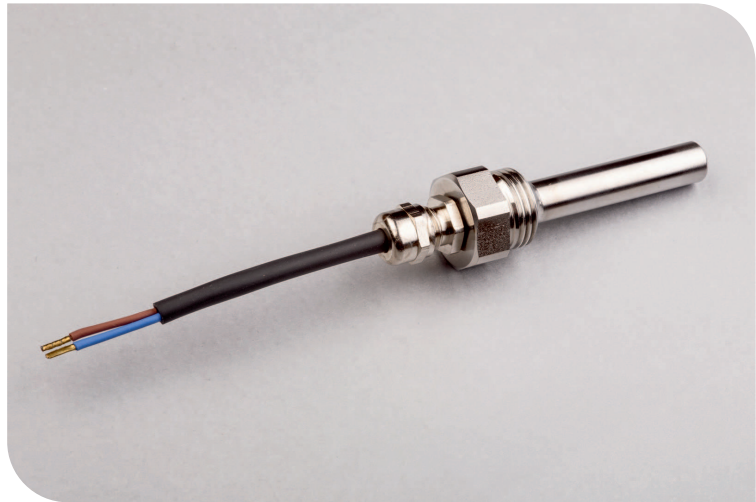
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**ESH-Series (ESH-110-75-XX-I/300)**

**Features**

- Wide variety of applications
- Compact design
- Exceptionally resistant stainless steel housing
- Robust construction
- Optimal heat transfer
- Available in different power - / temperature levels
- IP68 (with cable gland) \*\*\*

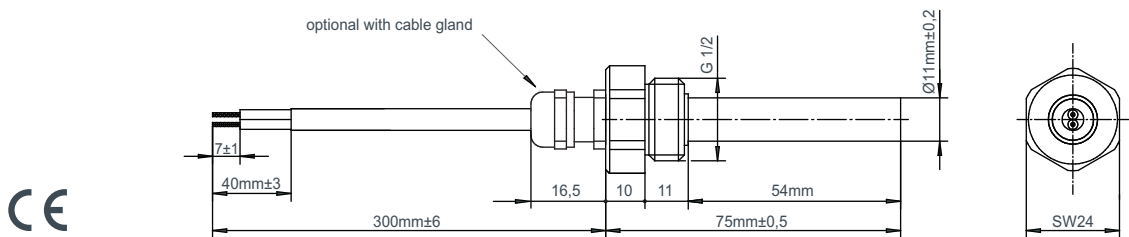


| Type, SampleNr.   | ESH (PTC-Liquid Heater)   |                               |                               |                               |
|---|---|-------------------------------|-------------------------------|-------------------------------|
|   | ESH-110-75-35-I/300; Nr. 1892   | ESH-110-75-33-I/300; Nr. 1893 | ESH-110-75-33-I/300; Nr. 1894 | ESH-110-75-33-I/300; Nr. 1895 |
| Operating Voltage   | 12-24V  |                               |                               |                               |
| Nominal Voltage   | 24V   |                               |                               |                               |
| Power * ±10%  | 28W   | 40W                           | 74W                           | 98W                           |
| Surface Temperature ±10°C measured on free air (~ 25°C) without airflow | 75°C  | 105°C                         | 160°C                         | 220°C                         |
| max. Inrush Current   | 8A  | 4A                            | 28A                           | 34A                           |
| Resistance at 25°C  | 4 -10Ω  | 11 - 21Ω                      | 1 - 3Ω                        | 2 - 7Ω                        |
| Max. Ambient Temperature  | +70°C   |                               |                               |                               |
| Diameter Housing  | 11mm  |                               |                               |                               |
| Length Housing  | 75mm  |                               |                               |                               |
| Material Housing  | stainless steel   |                               |                               |                               |
| Wire Type   | silicone-insulated multi-conductor cable 2x0,5mm <sup>2</sup> , Cu-tinned |                               |                               |                               |
| Wire Length   | 300mm   |                               |                               |                               |
| Connection  | wire end ferrule, CuZn unplated   |                               |                               |                               |
| Insulation Test Voltage   | 500V  |                               |                               |                               |
| Order Nr. **  | 395228,01 (02)  | 395229,01 (02)                | 395230,01 (02)                | 395231,01 (02)                |

\* Power measured in ice water (~ 0 °C)

\*\* Available without cable fitting (Order No: xxx,01) or **glanded** (O.No: xxx,02; see drawing)

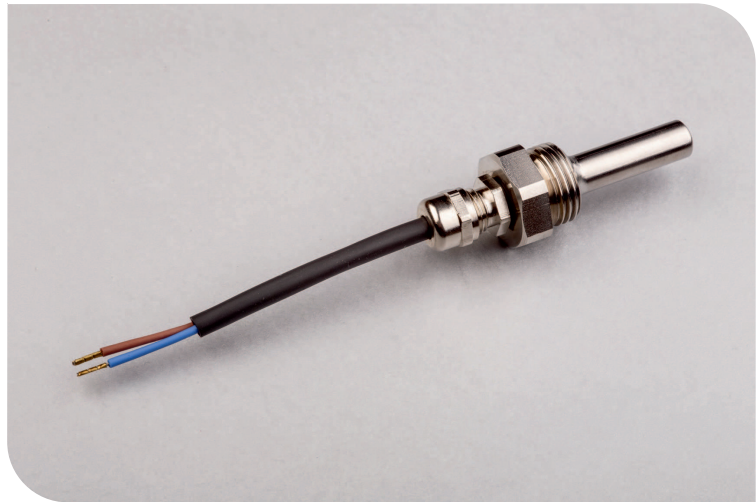
\*\*\* IP68 Test Conditions: Heater immersed in a 2m column of water for 48 Hrs



**ESH-Series (ESH-100-55-XX-I/300)**

**Features**

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- Robust construction
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- Available in different power - / temperature levels
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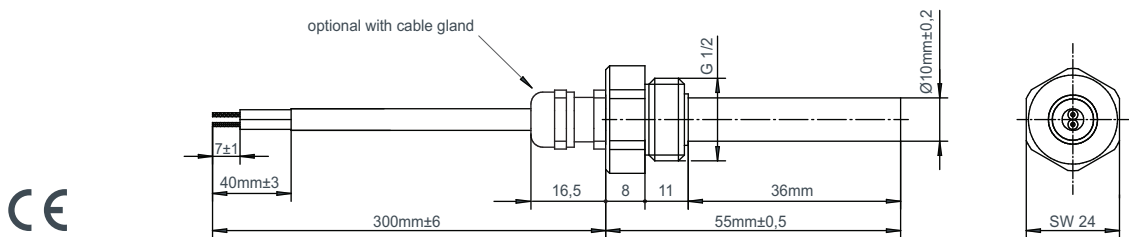


| Type, SampleNr.   | ESH (PTC-Liquid Heater)   |                               |                               |                               |
|---|---|-------------------------------|-------------------------------|-------------------------------|
|   | ESH-100-55-23-I/300; Nr. 1896   | ESH-100-55-23-I/300; Nr. 1897 | ESH-100-55-23-I/300; Nr. 1898 | ESH-100-55-22-I/300; Nr. 1899 |
| Operating Voltage   | 110-240V  |                               |                               |                               |
| Nominal Voltage   | 230V  |                               |                               |                               |
| Power * ±10%  | 24W   | 32W                           | 56W                           | 78W                           |
| Surface Temperature ±10°C measured on free air (~ 25°C) without airflow | 80°C  | 105°C                         | 155°C                         | 215°C                         |
| max. Inrush Current   | 3A  | 2,5A                          | 3A                            | 2,5A                          |
| Resistance at 25°C  | 455 - 945Ω  | 455 - 945Ω                    | 325 - 675Ω                    | 830 - 1490Ω                   |
| Max. Ambient Temperature  | +70°C   |                               |                               |                               |
| Diameter Housing  | 10mm  |                               |                               |                               |
| Length Housing  | 55mm  |                               |                               |                               |
| Material Housing  | stainless steel   |                               |                               |                               |
| Wire Type   | silicone-insulated multi-conductor cable 2x0,5mm <sup>2</sup> , Cu-tinned |                               |                               |                               |
| Wire Length   | 300mm   |                               |                               |                               |
| Connection  | wire end ferrule, CuZn unplated   |                               |                               |                               |
| Protection Class / Insulation Test Voltage                              | I / 2.500V  |                               |                               |                               |
| Order Nr. **  | 395232,01 (02)  | 395233,01 (02)                | 395234,01 (02)                | 395235,01 (02)                |

\* Power measured in ice water (~ 0 °C)

\*\* Available without cable fitting (Order No: xxx,01) or **glanded** (O.No: xxx,02; see drawing)

\*\*\* IP68 Test Conditions: Heater immersed in a 2m column of water for 48 Hrs



Electrical grounding has to be ensured by assembly.

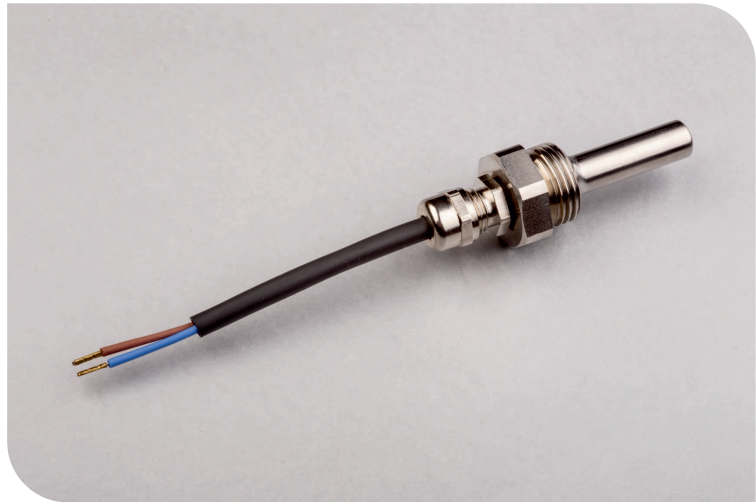
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**ESH-Series (ESH-100-55-XX-I/300)**

**Features**

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- Available in different power - / temperature levels
- IP68 (with cable gland) \*\*\*



| Type, SampleNr.   | ESH (PTC-Liquid Heater)   |                               |                               |                               |
|---|---|-------------------------------|-------------------------------|-------------------------------|
|   | ESH-100-55-23-I/300; Nr. 1904   | ESH-100-55-22-I/300; Nr. 1905 | ESH-100-55-22-I/300; Nr. 1906 | ESH-100-55-22-I/300; Nr. 1907 |
| Operating Voltage   | 12-24V  |                               |                               |                               |
| Nominal Voltage   | 24V   |                               |                               |                               |
| Power * ±10%  | 17W   | 23W                           | 49W                           | 68W                           |
| Surface Temperature ±10°C measured on free air (~ 25°C) without airflow | 70°C  | 105°C                         | 150°C                         | 210°C                         |
| max. Inrush Current   | 5,5A  | 3A                            | 24A                           | 26A                           |
| Resistance at 25°C  | 6 - 14Ω   | 16 - 32Ω                      | 2 - 5Ω                        | 3 - 10Ω                       |
| Max. Ambient Temperature  | +70°C   |                               |                               |                               |
| Diameter Housing  | 10mm  |                               |                               |                               |
| Length Housing  | 55mm  |                               |                               |                               |
| Material Housing  | stainless steel   |                               |                               |                               |
| Wire Type   | silicone-insulated multi-conductor cable 2x0,5mm <sup>2</sup> , Cu-tinned |                               |                               |                               |
| Wire Length   | 300mm   |                               |                               |                               |
| Connection  | wire end ferrule, CuZn unplated   |                               |                               |                               |
| Insulation Test Voltage   | 500V  |                               |                               |                               |
| Order Nr. **  | 395236,01 (02)  | 395237,01 (02)                | 395238,01 (02)                | 395239,01 (02)                |

\* Power measured in ice water (~ 0 °C)

\*\* Available without cable fitting (Order No: xxx,01) or **glanded** (O.No: xxx,02; see drawing)

\*\*\* IP68 Test Conditions: Heater immersed in a 2m column of water for 48 Hrs

