# DCR

## Programmable Transducer for Temperature, Resistance, and Standard Signals

**Programmable universal transducer for fast and high accuracy measurements of low DC voltage or current, resistance, RTD, potentiometer, thermocouple or tap changers. Advanced filter functions and characteristic setting points that can be individually set for both, analog and relays outputs. Auxiliary supply with wide input voltage range and free configuration software, ConfigLQT.**

| Technical Data | | Details |
|---|---|---|
| **Input** | Current | ±24 mA |
| | Voltage | ±24 VDC, ±12 VDC, ±300 mV, ±77 mV |
| | Resistance 2 Wire | 0 - 6 kΩ, 0 - 3 kΩ, 0 - 1480 Ω, 0 - 720 Ω |
| | Resistance 3 Wire | 0-12 kΩ, 0-6000 Ω, 0-3000 Ω, 0-1500 Ω, 0-750 Ω |
| | PT100, PT250, PT500, PT1000 | -200 - 850 °C |
| | K | -200 - 1372 °C |
| | J | -210 - 1200 °C |
| | N | -200 - 1300 °C |
| | R, | -50 - 1768 °C |
| | S | -50 - 1768 °C |
| | B | -250 - 1820 °C |
| | T | -200 - 400 °C |
| | E | -200 - 1000 °C |
| | Potentiometer/Tap Changer | 0 - 250 kΩ, 0 - 50 kΩ, 0 - 5 kΩ, 0 - 1 kΩ |
| | Current Shunt | ±300 mV, ±77 mV |
| **Auxiliary supply** | Range | 24 – 230 VDC / 90 – 230 VAC ±10 % |
| | Burden | max 4.5 W / 10 VA (2 analog outputs)<br>max 3.5 W / 7 VA (1 analog output + 24 VDC) |
| **Output** | Analog Outputs | 1 (without relay outputs), 2, or 1 with 24 VDC Supply |
| | Programmable Range | ±20 mA, ±5 mA, ±10 V (Settings within the range) |
| | Resolution | 16 bits |
| | External Resistance Load | Current output: ±20 mA ≤ 500 Ω, ±5 mA ≤ 2000 Ω (10V)<br>Voltage output: ±10 V ≥ 500 Ω |
| | Response Time | < 50 msec |
| | Ripple | ≤ 0.2 % |
| | Relay Outputs<br>(only with DCR -022 and -032) | 2(Mechanical)<br>8 A 250 VAC (NO)<br>8 A 30 VDC- 300 mA 300 VDC (NO) |
| **General Data** | | |
| | Galvanic Isolation | Supply, input, and output are galvanically isolated |
| | Connection Terminals Torque | Input, Output & Auxiliary: 2.5 $mm^2$ / 0.5 Nm |
| | Humidity | 95% non-condensing |
| | USB | USB Micro-B, port for configuration |
| | Temperature | -10…+55 °C (operation), -40…+70 °C (storage)<br>Temperature coefficient < 0.1 % / 10 °C |
| | Test Voltage | 4 kVAC /1 min |
| | Measurement/Overvoltage | Cat. III |
| | Pollution Degree | 2 |
| | Dimension (W x H x D) | 35 x 132 x 101 mm |
| | Weight | 330 gr |
| | Protection | Enclosure IP40 Terminals IP20 |
| | Flammability Class | UL94 V-0 |
| | Standards | SS-EN 60688:2021 Transducers, EN 61000-6-2 / -6-4 / -6-5<br>SS-EN 61010-1 Safety, SS-EN 61010-2-030 |

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Our policy is one of continuous improvement and we reserve the right to make changes in design and specifications of any products as engineering advances or necessity requires and revise the above specifications without notice.

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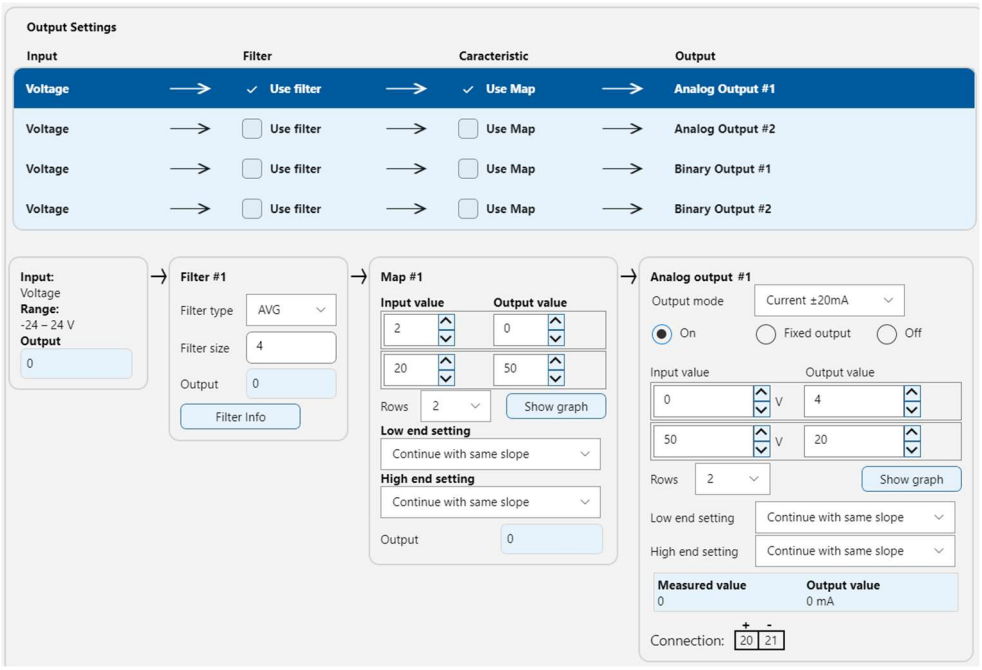
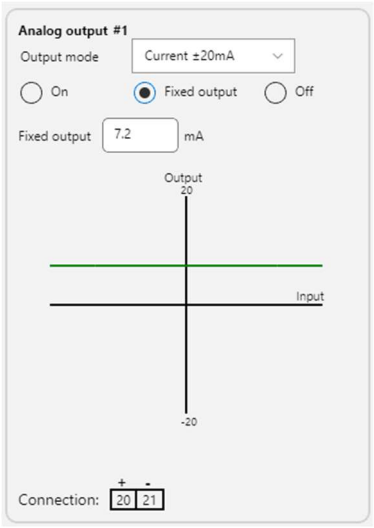


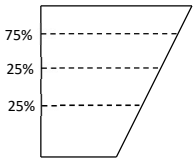

## Configuration Software - ConfigLQT

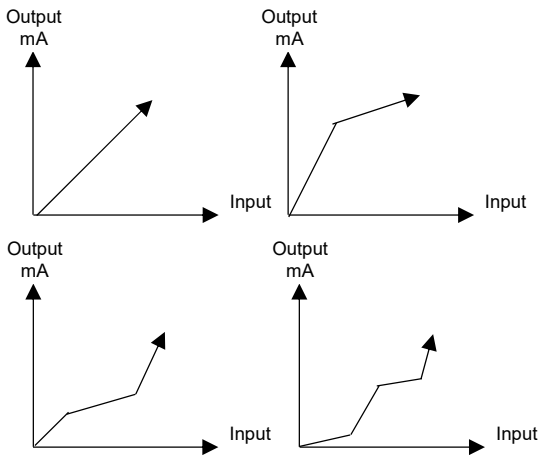
ConfigLQT, free configuration software, downloadable from our webpage, www.tillquist.com, configures all Tillquist's programmable transducers. The software connects to live transducers, changes the configuration, and visualizes live readings.

## Programmable Characteristic Setting Points

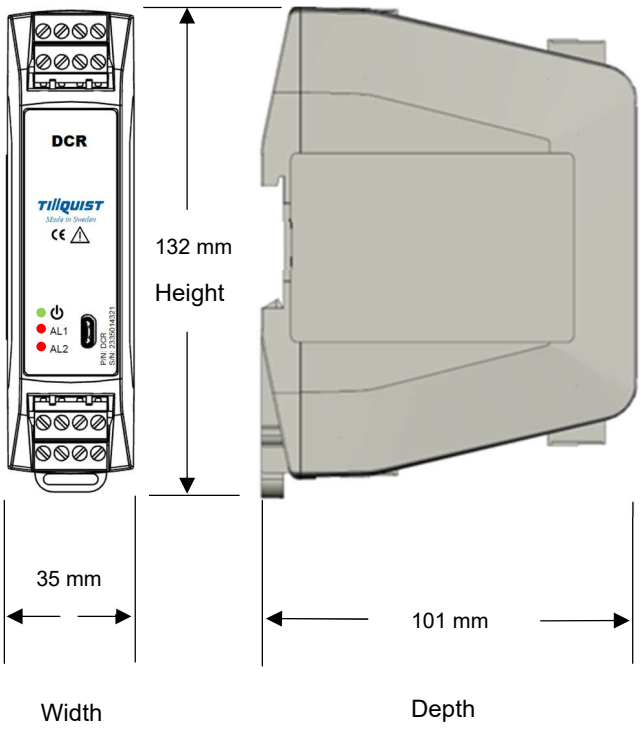
### Transmission Functions (up to 20 setting points)

| Sensor | Used Value |
|---|---|
| *0 Ω* | Empty |
| *62 Ω* | 125 liters |
| *105 Ω* | 250 liters |
| *146 Ω* | 375 liters |
| *180 Ω* | 500 liters |




## Dimensions

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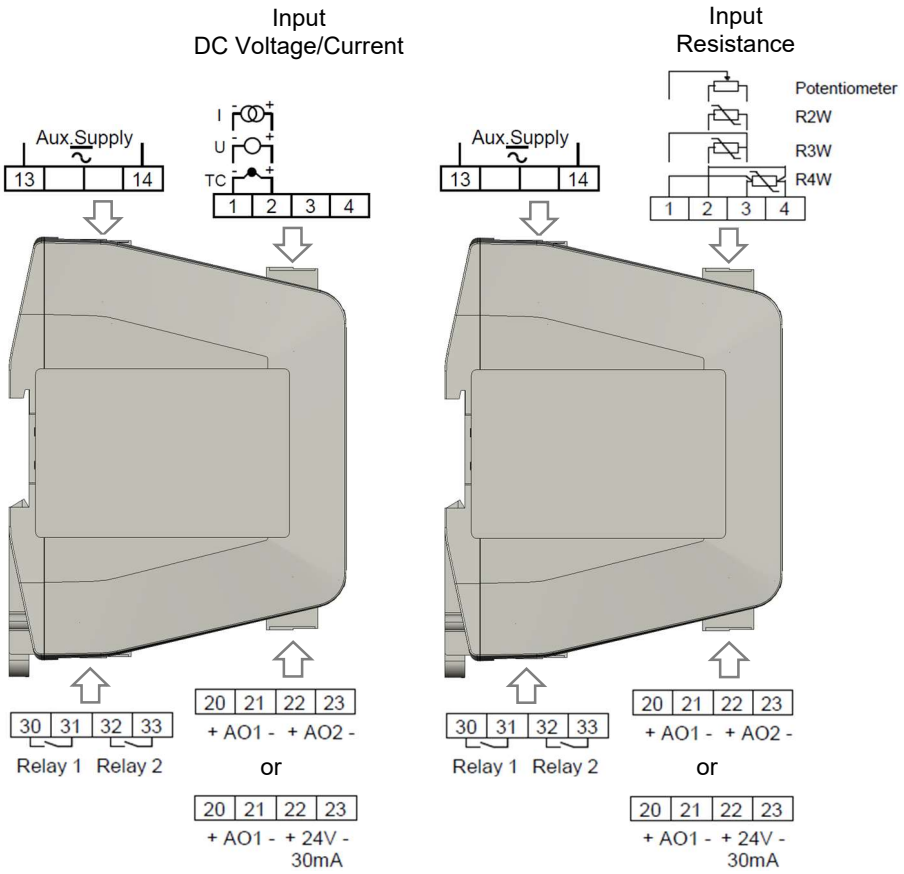
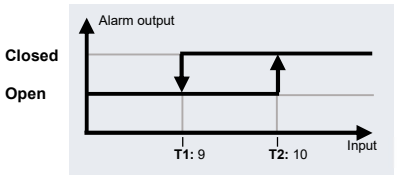
## Connections

### DCR




## Relay Outputs

**Closed above level**

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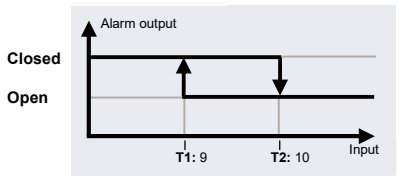
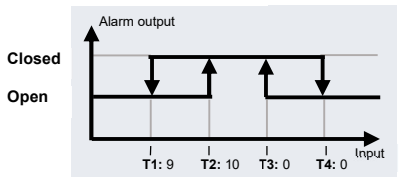
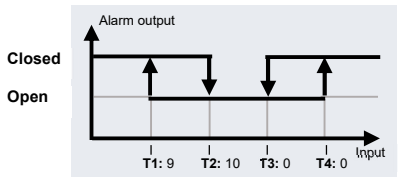



**Closed between levels**




**Closed outside levels**




## Ordering Codes

### DCR Ordering Codes

| | DCR-0 | XX | XXX |
|---|---|---|---|
| Number of Analog and Relay Outputs | | | |
| 1 AO, no relay outputs | | 10 | |
| 2 AOs, 2 relay outputs | | 22 | |
| 1 AO, 2 relay and 24VDC, 30 mA Supply | | 32 | |
| Other Requirements | | | |
| Standard Configuration | | | 000 |
| Customer configuration (to provide ERF) | | | 001 |

### Ordering Codes Examples

DCR-022000: DCR transducer with 2 analog and 2 relay outputs
DCR-032000: DCR transducer with 1 analog and 2 relay outputs, and 24 VDC supply
DCR-010000: DCR transducer with 1 analog

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