# 4 to 20 mA Conversion Table

*Basis: Linear signal scaling: mA = 4 + 16 × % ÷ 100. NAMUR NE 43 for signal limits and failure currents.*

instrumentationblog.in/downloads/engineering-reference-tables/4-20-ma-conversion-table/

## Signal conversion by percent of range

| % | mA | 1 to 5 V | 0 to 10 V | 3 to 15 psi | 0.2 to 1.0 bar | 20 to 100 kPa |
|---|---|---|---|---|---|---|
| 0 | 4.00 | 1.00 | 0.00 | 3.00 | 0.200 | 20.0 |
| 5 | 4.80 | 1.20 | 0.50 | 3.60 | 0.240 | 24.0 |
| 10 | 5.60 | 1.40 | 1.00 | 4.20 | 0.280 | 28.0 |
| 15 | 6.40 | 1.60 | 1.50 | 4.80 | 0.320 | 32.0 |
| 20 | 7.20 | 1.80 | 2.00 | 5.40 | 0.360 | 36.0 |
| 25 | 8.00 | 2.00 | 2.50 | 6.00 | 0.400 | 40.0 |
| 30 | 8.80 | 2.20 | 3.00 | 6.60 | 0.440 | 44.0 |
| 35 | 9.60 | 2.40 | 3.50 | 7.20 | 0.480 | 48.0 |
| 40 | 10.40 | 2.60 | 4.00 | 7.80 | 0.520 | 52.0 |
| 45 | 11.20 | 2.80 | 4.50 | 8.40 | 0.560 | 56.0 |
| 50 | 12.00 | 3.00 | 5.00 | 9.00 | 0.600 | 60.0 |
| 55 | 12.80 | 3.20 | 5.50 | 9.60 | 0.640 | 64.0 |
| 60 | 13.60 | 3.40 | 6.00 | 10.20 | 0.680 | 68.0 |
| 65 | 14.40 | 3.60 | 6.50 | 10.80 | 0.720 | 72.0 |
| 70 | 15.20 | 3.80 | 7.00 | 11.40 | 0.760 | 76.0 |
| 75 | 16.00 | 4.00 | 7.50 | 12.00 | 0.800 | 80.0 |
| 80 | 16.80 | 4.20 | 8.00 | 12.60 | 0.840 | 84.0 |
| 85 | 17.60 | 4.40 | 8.50 | 13.20 | 0.880 | 88.0 |
| 90 | 18.40 | 4.60 | 9.00 | 13.80 | 0.920 | 92.0 |
| 95 | 19.20 | 4.80 | 9.50 | 14.40 | 0.960 | 96.0 |
| 100 | 20.00 | 5.00 | 10.00 | 15.00 | 1.000 | 100.0 |

## NAMUR NE 43 signal levels

| Current | Meaning |
|---|---|
| 3.8 to 20.5 mA | Normal measuring range including under and over range |
| Below 3.6 mA | Failure signal (low) |

| | |
|---|---|
| Above 21.0 mA | Failure signal (high) |
| 3.6 to 3.8 and 20.5 to 21.0 mA | Not used for measurement; treat as suspect |

### Notes

- 1 to 5 V equals 4 to 20 mA across a 250 Ω resistor.
- Check the device burnout setting (high or low) before testing alarms.

*Free download from instrumentationblog.in. Check values against the current edition of the standard for design work.*