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Data Sheet

August 15, 2026

EMERSON / ROSEMOUNT ANALYTICAL

Emerson / Rosemount Analytical 54eC-01 Conductivity / Resistivity Analyzer / Controller

Emerson Rosemount Analytical 54eC Conductivity Resistivity Analyzer Controller The Rosemount Analytical Model 54eC is a microprocessor conductivity/resistivity/percent-concentration analyzer. OEM 54eC manual and 54e series data sheet list contacting range 0 to 20000 uS/cm, toroidal range 0 to 2 S/cm, analyzer accuracy plus or minus 0.5 percent of reading plus or minus 0.005 uS/cm (contacting) or plus or minus 1 percent of reading (inductive 200 uS/cm to 2 S/cm), NEMA 4X IP65 epoxy-painted cast aluminum, two galvanically isolated 0-20/4-20 mA outputs, and power 100-127/200-253 VAC 6.0 W (code 01) or 20-30 VDC 6.0 W (code 02). Code 09 adds HART on output 1. The Rosemount Analytical Model 54eC is a microprocessor conductivity/resistivity/percent-concentration analyzer. OEM 54eC manual and 54e series data sheet list contacting range 0 to 20000 uS/cm, toroidal range 0 to 2 S/cm, analyzer accuracy plus or minus 0.5 percent of reading plus or minus 0.005 uS/cm (contacting) or plus or minus 1 percent of reading (inductive 200 uS/cm to 2 S/cm), NEMA 4X IP65 epoxy-painted cast aluminum, two galvanically isolated 0-20/4-20 mA outputs, and power 100-127/200-253 VAC 6.0 W (code 01) or 20-30 VDC 6.0 W (code 02). Code 09 adds HART on output 1. Industrial conductivity, resistivity, and percent concentration control with contacting or toroidal sensors, including high-purity water and cation-conduc



MODEL

**Emerson /
Rosemount
Analytical 54eC-01**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

54eC-01

LISTING

<https://aumictechlabs.com/products/54ec-01-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Emerson Rosemount Analytical 54eC-01 is a microprocessor-based conductivity/resistivity analyzer and controller for continuous process monitoring. It measures conductivity, resistivity, and percent concentration in liquids with advanced temperature compensation algorithms applied across high-purity water, cation conductivity, and general industrial applications. Technical Specifications Measurement Parameters: Conductivity, resistivity, percent (%) concentration Contacting sensors: 0–20,000 $\mu\text{S}/\text{cm}$ Inductive sensors: 0–2 S/cm Accuracy & Repeatability: Contacting sensors: $\pm 0.5\%$ of reading, $\pm 0.5 \mu\text{S}/\text{cm}$ Inductive sensors: $\pm 1\%$ of reading (200 $\mu\text{S}/\text{cm}$ to 2 S/cm), $\pm 5 \mu\text{S}/\text{cm}$ Repeatability: $\pm 0.25\%$ of reading Stability: $\pm 0.25\%$ of output range per month, non-cumulative Ambient temperature coefficient: $\pm 0.01\%$ of reading/ $^{\circ}\text{C}$ Temperature Compensation: Range: -15 to 200°C (5 to 392°F) Automatic or manual modes Correction algorithms: high-purity water (dilute NaCl), cation conductivity (dilute HCl), linear temperature coefficient (0.0–5.00/ $^{\circ}\text{C}$), or none High-purity and cation algorithms operate 0 – 100°C ; linear coefficient applies -5 to 200°C (23 to 392°F) Percent Concentration Curves: 0–12% NaOH, 0–15% HCl, 0–25% or 96–99.7% H_2SO_4 Custom curve feature available Operating Conditions: Recommended: 0 to 50°C (32 to 122°F) Operable: -20 to 60°C (-4 to 140°F), with potential display degradation Key Features NEMA 4X (IP65) rated, corrosion-resistant enclosure for harsh industrial environments Back-lit dot-matrix LCD display of process measurements and temperature Front panel membrane keyboard with tactile feedback Two independent, isolated 4–20 mA or 0–20 mA analog outputs assignable to primary measurement, temperature, or other parameters Output 1 includes superimposed HART signal Maximum output load: 500 ohms at 24 Vdc or 115/230 Vac Compatibility & Integration Supports contacting and inductive (toroidal) conductivity sensors Power: 115/230 Vac, 8 W (voltage configuration dependent)

54EC Characteristics / Specifications

PARAMETER	VALUE
Model	54eC
Instrument Type	Conductivity resistivity analyzer controller
Contacting Range	0 to 20000 uS/cm
Toroidal Range	0 to 2 S/cm
Temperature Range	minus 15 to 200 C (5 to 392 F)
Accuracy Contacting	plus or minus 0.5 percent of reading, plus or minus 0.005 uS/cm (simulated sensor)
Accuracy Inductive	plus or minus 1 percent of reading, 200 uS/cm to 2 S/cm, plus or minus 5 uS/cm
Repeatability	plus or minus 0.25 percent of reading
Stability	plus or minus 0.25 percent of output range per month, noncumulative
Ambient Tc	plus or minus 0.01 percent of reading perC Enclosure: NEMA 4X (IP65) epoxy painted cast aluminum
Display	backlit dot-matrix LCD, process variable character height 16 mm (0.6 in)
Current Outputs	two galvanically isolated 0-20 mA or 4-20 mA
Output Load	600 ohm maximum at 115/230 VAC or 24 VDC; 550 ohm at 100/200 VAC
Hart	digital HART superimposed on 4-20 mA output 1 with code 09
Power Ac	code 01: 100-127 VAC or 200-253 VAC, 50/60 Hz plus or minus 6 percent, 6.0 W
Power Dc	code 02: 20-30 VDC, 6.0 W
Relays	process relays; CSA max 28 VDC / 110 VAC / 230 VAC, 6 A resistive
Hazardous Location	Class I Division 2 Groups ABCDT5 Ta=50 C; Class II Division 1 EFG; Class III
Concentration Curves	0-12 percent NaOH, 0-15 percent HCl, 0-25 percent or 96-99.7 percent H2SO4
Temp Correction	high purity water, cation conductivity, linear 0.0 to 5.00 percent per C, or none

PARAMETER	VALUE
Ambient Operating	0 to 50 C (32 to 122 F) specified; operable minus 20 to 60 C
Manufacturer	Emerson Rosemount Analytical
Documentation	Rosemount Model 54eC Conductivity/Resistivity Analyzer manual and 54e series data sheet

54EC Specifications

PARAMETER	VALUE
Key Features	Contacting 0 to 20000 uS/cm
Toroidal 0 to 2 S/cm	Two isolated 0-20/4-20 mA outputs
NEMA 4X IP65 enclosure	HART on output 1 with code 09
Technical Specifications	Model: 54eC

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Technical Specifications	
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Accuracy Inductive	plus or minus 1 percent of reading, 200 uS/cm to 2 S/cm, plus or minus 5 uS/cm
Repeatability	plus or minus 0.25 percent of reading
Stability	plus or minus 0.25 percent of output range per month, noncumulative
Ambient Tc	plus or minus 0.01 percent of reading per C
Enclosure	NEMA 4X (IP65) epoxy painted cast aluminum
Display	backlit dot-matrix LCD, process variable character height 16 mm (0.6 in)
Current Outputs	two galvanically isolated 0-20 mA or 4-20 mA
Output Load	600 ohm maximum at 115/230 VAC or 24 VDC; 550 ohm at 100/200 VAC
Hart	digital HART superimposed on 4-20 mA output 1 with code 09
Power Ac	code 01: 100-127 VAC or 200-253 VAC, 50/60 Hz plus or minus 6 percent, 6.0 W
Power Dc	code 02: 20-30 VDC, 6.0 W
Relays	process relays; CSA max 28 VDC / 110 VAC / 230 VAC, 6 A resistive
Hazardous Location	Class I Division 2 Groups A B C D T5 Ta=50 C; Class II Division 1 E F G; Class III
Concentration Curves	0-12 percent NaOH, 0-15 percent HCl, 0-25 percent or 96-99.7 percent H2SO4
Temp Correction	high purity water, cation conductivity, linear 0.0 to 5.00 percent per C, or none
Ambient Operating	0 to 50 C (32 to 122 F) specified; operable minus 20 to 60 C
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Hart	digital HART superimposed on 4-20 mA output 1 with code 09
Power Ac	code 01: 100-127 VAC or 200-253 VAC, 50/60 Hz plus or minus 6 percent, 6.0 W
Power Dc	code 02: 20-30 VDC, 6.0 W
Relays	process relays; CSA max 28 VDC / 110 VAC / 230 VAC, 6 A resistive
Hazardous Location	ClassIDivision 2 GroupsABCDT5 Ta=50 C; Class II Division 1 EFG; Class III
Concentration Curves	0-12 percent NaOH, 0-15 percent HCl, 0-25 percent or 96-99.7 percent H2SO4
Temp Correction	high purity water, cation conductivity, linear 0.0 to 5.00 percent per C, or none
Ambient Operating	0 to 50 C (32 to 122 F) specified; operable minus 20 to 60 C
Manufacturer	Emerson Rosemount Analytical
Documentation	Rosemount Model 54eC Conductivity/Resistivity Analyzer manual and 54e series data sheet

Notes

From Rosemount Analytical Model 54eC manual and 54e series analyzer data sheet. Queue SKUs 54eC-01 and 54EC-01-09 are AC-powered (01) with optional HART (09).

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.