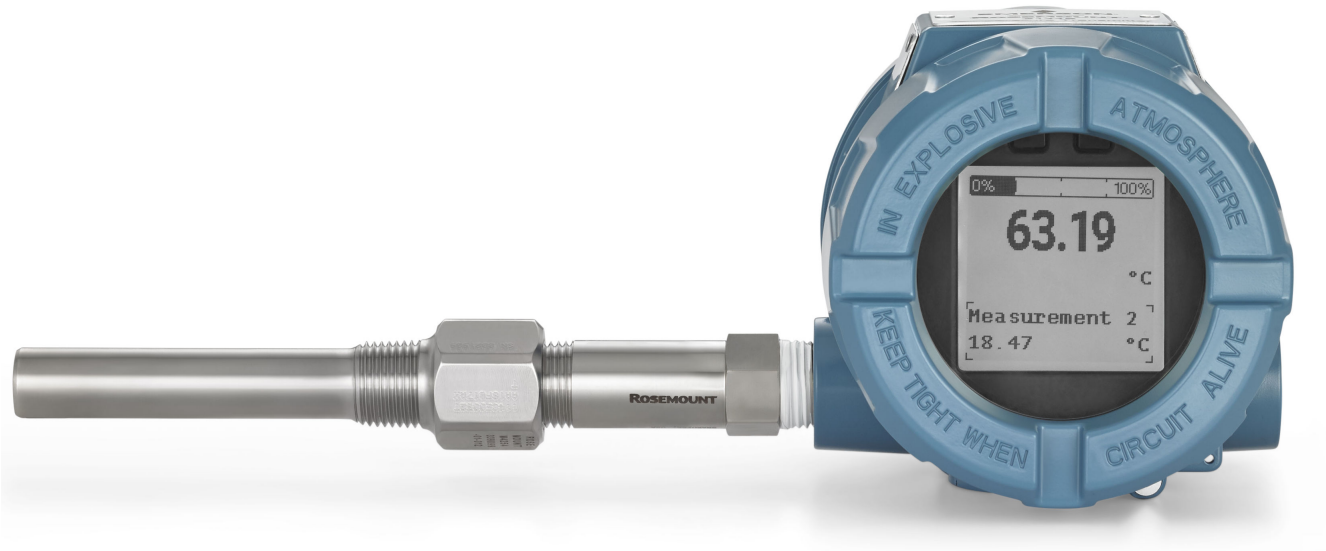
Product Data Sheet
MS-00813-0100-6184, Rev AB
September 2025

Rosemount™ 3144S Temperature Transmitter

With 4-20 mA HART® Protocol



- Simplify configuration with ReadyConnect™ technology, Bluetooth® connectivity, and **Quick Service** buttons.
- Operate with unparalleled performance and complete diagnostic coverage from sensor to control room.
- Measure non-intrusively in applications up to 1202 °F (650 °C) with Rosemount X-well™ Technology.

ROSEMOUNT™

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Features and benefits

Improved ease of use

- With Bluetooth® connectivity, quickly configure, service, and troubleshoot at speeds up to 10 times faster than traditional HART® connections.
- **Quick Service** buttons provide straightforward menus and built-in configuration, allowing you to quickly commission the device.
- ReadyConnect™ technology allows for sensor configuration with the push of a button, automatically detecting the sensor type, number of wires, and Callendar-Van Dusen coefficients, to save you configuration and commissioning time while delivering the best accuracy.

Full diagnostic coverage from sensor to control room

- Identify issues before they impact operations or compromise safety with complete diagnostic coverage from your temperature sensor to your control room with sensor health diagnostics, dual input capabilities, and continuous electrical loop monitoring.
- The **Loop Integrity** diagnostic continuously monitors the electrical loop to detect issues that affect the communication signal and will alert you to corrosion, water in the housing, or an unstable power supply.
- **RTD Measurement Protection** seamlessly switches from a 4-wire to a 3-wire RTD sensor input configuration if one of the four sensor wires becomes broken, corroded, or loose anywhere from the sensor element to the transmitter terminal connections. Your measurement will be maintained without process disruption, and a maintenance alert will be generated.
- Diagnostic logging capability stores up to 100 events, providing historical insight into device health.
- Improve visibility to your operations with the **Process Alert** capability that provides variable dynamic tracking within alarm limits.

Reset measurement expectations with Ultra Performance Class

- Control closer to your setpoint with 0.05 °C accuracy.
- Extend calibration intervals with 20-year stability.
- Have confidence in your measurement reliability with 20-year limited warranty.
- Ensure the most accurate dual sensor measurement with dual 4-wire input.

Eliminate thermowell challenges with Rosemount X-well™ Technology

- Non-intrusive solution provides accurate and reliable process temperature measurement in applications up to 1202 °F (650 °C).
- Remote mount capability provides installation flexibility.
- Single model configuration greatly reduces specification complexity.

Contents

Ordering information

The industry-leading Rosemount 3144S Temperature Transmitter delivers unmatched field reliability, innovative process measurement solutions, and full diagnostic coverage. Transmitter features include:

- Large, easy to read, graphical backlit LCD display (option code M6).
- Bluetooth® connectivity enables efficient, reliable, and safe configurations (option code BLE).
- ReadyConnect™ technology (Performance class option code 1).
- Non-intrusive temperature measurement assembly with Rosemount X-well™ Technology (Measurement functionality option code 3).
- Transmitter-sensor matching (option code C2).
- Integral transient protector (option code T1).
- IEC 61508 Safety Certificate of Compliance (option code QT).
- Assemble to sensor option (option code XA).

Online product configurator

Many products are configurable online using our product configurator.

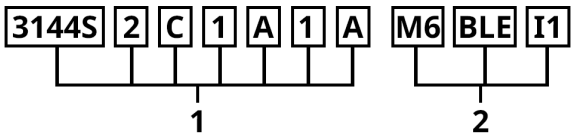
Select the **Configure** button or visit Emerson.com/global to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Model codes

Model codes contain the details related to each product.

Exact model codes will vary; an example of a typical model code is shown in the following figure.

Figure 1: Model Code Example



1. Required model components
2. Additional options (variety of features and functions that may be added to products)

Specifications and options

The purchaser of the equipment must specify and select:

- Product materials
- Options
- Components

Related information

Material selection

Optimizing lead time

The starred offerings (★) represent the most common options and should be selected for the fastest delivery. The non-starred offerings are subject to additional delivery lead time.

Required model components

Model Sample Model: 3144P D1A1NAB4M5 3144S 1A4A1AM6B4

Code	Description	
3144S	Temperature transmitter	★

Measurement functionality

Code	Description	
1	Single input temperature	★
2	Dual input temperature	★
3	Rosemount X-well™ Technology assembly for non-intrusive measurement (with sensor and mounting)(1)	★
4	Single/dual input temperature with X-well Technology capability (transmitter only)	★

(1) *See Ordering Rosemount X-well™ Technology*

Diagnostic functionality

Code	Description	Features	
A	**Device**, **RTD Measurement Protection**, and **Loop Integrity** diagnostic	■ Basic transmitter diagnostics (open/short sensor detect) ■ Process alerts with minimum/maximum tracking ■ RTD measurement protection ■ Loop integrity	★
B	**Enhanced Safety Integrated Systems (SIS) Proof Testing and Logging** (includes **RTD Measurement Protection** and **Loop Integrity** diagnostic)	■ SIS proof testing and logging ■ Basic transmitter diagnostics (open/short sensor detect) ■ Process alerts with minimum/maximum tracking ■ RTD measurement protection ■ Loop integrity	★

Code	Description	Features	
C	**Sensor Health** (includes **Enhanced SIS**, **RTD Measurement Protection**, and **Loop Integrity**)	■ Thermocouple degradation diagnostic ■ SIS proof testing and logging ■ Basic transmitter diagnostics (open/short sensor detect) ■ Process alerts with minimum/maximum tracking ■ RTD measurement protection ■ Loop integrity	★

Performance class

Code	Description	
1	Ultra: 0.09 °F (0.05 °C) accuracy, 20-year stability, 20-year limited warranty, ReadyConnect™ technology	★
4	Classic: 0.14 °F (0.08 °C) accuracy, 10-year stability	★

Transmitter housing material

Connection head material matches transmitter housing material when TR2 remote assemblies are specified.

Code	Description	
A	Aluminum field mount, dual-compartment housing	★
S	Stainless steel (SST) field mount, dual-compartment housing	★

Conduit/cable threads

Connection head conduit/cable threads match transmitter housing conduit/cable threads when TR2 remote assemblies are specified.

Code	Description	
1	½-14 NPT	★
2	M20 x 1.5	★

Transmitter output

Code	Description	
A	4-20 mA with digital signal based on HART® protocol	★

Additional options

Local wireless device access

Code	Description	
BLE	Bluetooth® configuration and maintenance	★

Display type

Code	Description	
M6	Graphical backlit LCD display with **Quick Service** buttons	★
M7	Graphical backlit LCD display (**Quick Service** buttons disabled)	★

Transmitter mounting bracket

Code	Description	Image	
B4	Stainless steel (SST) U-bolt mounting bracket, 2-inch pipe mount		★
BE	316 SST U-bolt mounting bracket, 2-inch pipe mount		★
B5	SST L-bolt mounting bracket, 2-inch pipe and panel mount		★
BH	316 SST L-bolt mounting bracket, 2-inch pipe and panel mount		★

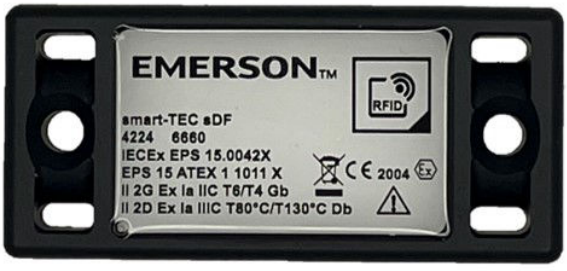
Tagging and fastener material

Aluminum is the default material for fasteners and tagging.

Code	Description	
Y2	316 stainless steel (SST) name plate, top tag, wire-on tag, and fasteners	★

RFID tagging

Provides unique identifier for asset identification.

Code	Description	Example image	
Y3	RFID tag		★

Transient protection

Code	Description	
T1	Transient terminal block	★

Extended product warranty

Code	Description	
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★

Dual-input custom configuration

Code	Description	
U1	Hot Backup™	★
U2	Average temperature with Hot Backup and sensor drift alert – Warning mode	★
U3	Average temperature with Hot Backup and sensor drift alert – Alarm mode	★
U4	2 independent sensors	★
U5	Differential temperature	★
U6	Average temperature	★

Software configuration

Code	Description	
C1	Custom software configuration (requires *Configuration Data Sheet* - available on Emerson.com)	

Sensor trim

Code	Description	
C2	Transmitter sensor matching: trim to PT100 RTD calibration schedule (Callendar-Van Dusen [CVD] constants)	

5-point calibration

Code	Description	
P5	5-point calibration (requires Q4 option code to generate calibration certificate)	★

Alarm limit

Code	Description	
C4	NAMUR alarm and saturation levels, High alarm	★
C5	NAMUR alarm and saturation levels, Low alarm	★
C6	Custom alarm and saturation signal levels, High alarm (requires C1 and *Configuration Data Sheet* - available on Emerson.com)	★
C7	Custom alarm and saturation signal levels, Low alarm (requires C1 and *Configuration Data Sheet* - available on Emerson.com)	★
C8	Low alarm (standard Rosemount alarm and saturation levels)	★

Ground screw

Code	Description	
G1	External ground screw assembly	★

Conduit plug

Code	Description	
DO	316 stainless steel (SST) conduit plug	★

Conduit electrical connector

Code	Description	
GE	M12, 4-pin, male connector (eurofast®)	★
GM	A size mini, 4-pin, male connector (minifast®)	★

Cold temperature

Code	Description	
BR5	-58 °F (-50 °C) cold temperature operation	★
BR6	-76 °F (-60 °C) cold temperature operation	★

Calibration certification

Code	Description	
Q4	Calibration certificate	★
QP	Calibration certificate and tamper evident seal	★

Quality certification for safety

Code	Description	
QT	Safety certified to IEC 61508 with certificate of failure modes, effects, and diagnostic analysis (FMEDA) data	★

Line filter

Code	Description	
FD	Dual notch line voltage filter (50 and 60 Hz)	★
F5	50 Hz line voltage filter	★
F6	60 Hz line voltage filter	★

Assemble to options

Code	Description	
XA	Process ready assembly of transmitter and sensor	★
XC	Hand tight assembly of transmitter and sensor	★

Shipboard approval

Code	Description	
SBS	American Bureau of Shipping (ABS) type approval	★
SBV	Bureau Veritas (BV) type approval	★

Code	Description	
SDN	Det Norske Veritas (DNV) type approval	★
SLL	Lloyd's Register (LR) type approval	★

Product certifications

Code	Description for Measurement functionality 1 or 2	Description for Measurement functionality 4	
K1	ATEX Flameproof, Intrinsic Safety, Zone 2, Dust	ATEX Flameproof, Intrinsic Safety, Zone 2	★
E1	ATEX Flameproof, Dust	ATEX Flameproof	★
I1	ATEX Intrinsic Safety	ATEX Intrinsic Safety	★
K5	USA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2	USA Explosion-proof, Intrinsically Safe, Division 2	★
E5	USA Explosion-proof, Dust Ignition-proof	USA Explosion-proof	★
I5	USA Intrinsically Safe, Division 2	USA Intrinsically Safe, Division 2	★
K6	Canada Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2	Canada Explosion-proof, Intrinsically Safe, Division 2	★
E6	Canada Explosion-proof, Dust Ignition-proof	Canada Explosion-proof	★
I6	Canada Intrinsically Safe, Division 2	Canada Intrinsically Safe, Division 2	★
K7	IECEx Flameproof, Dust Ignition-proof, Intrinsic Safety, Zone 2	IECEx Flameproof, Intrinsic Safety, Zone 2	★
E7	IECEx Flameproof, Dust Ignition-proof	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	IECEx Intrinsic Safety	★
KS	USA, Canada, IECEx, ATEX Explosion-proof, Intrinsically Safe, Dust, Zone 2, Division 2	USA, Canada, IECEx, ATEX Explosion-proof, Intrinsically Safe, Division 2	★
KL	USA, Canada, IECEx, & ATEX Intrinsic Safety	USA, Canada, IECEx, & ATEX Intrinsic Safety	★

Ordering Rosemount X-well™ Technology

X-well Technology provides a Complete Point Solution™ for accurately measuring process temperature in monitoring applications without the requirement of a thermowell or process penetration.

- Simplify temperature measurement point specification, installation, and maintenance and eliminate possible leak points.
- Calculate a repeatable and accurate process temperature measurement with an in-transmitter thermal conductivity algorithm.
- Measure pipe surface and secondary temperatures while using the thermal conductivity properties of the installation and process piping to provide an accurate process measurement.

Required model components

Options only applicable when Measurement functionality 3 is specified.

Model

Code	Description	
3144S	Temperature transmitter	★

Measurement functionality

Code	Description	
3	Rosemount X-well™ Technology assembly for non-intrusive measurement (with sensor and mounting)	★
4	Single/dual input temperature with X-well Technology capability (transmitter only)(1)	★

(1) *Refer to the Rosemount 3144S ordering tables when ordering Measurement Functionality option 4.*

Diagnostic functionality

Code	Description	Features	
A	**Device**, **RTD Measurement Protection**, and **Loop Integrity** diagnostic	■ Basic transmitter diagnostics (open/short sensor detect) ■ Process alerts with minimum/maximum tracking ■ RTD measurement protection ■ Loop integrity	★
B	**Enhanced Safety Integrated Systems (SIS) Proof Testing and Logging** (includes **RTD Measurement Protection** and **Loop Integrity** diagnostic)	■ SIS proof testing and logging ■ Basic transmitter diagnostics (open/short sensor detect) ■ Process alerts with minimum/maximum tracking ■ RTD measurement protection ■ Loop integrity	★

Code	Description	Features	
C	**Sensor Health** (includes **Enhanced SIS**, **RTD Measurement Protection**, and **Loop Integrity**)	■ Thermocouple degradation diagnostic ■ SIS proof testing and logging ■ Basic transmitter diagnostics (open/short sensor detect) ■ Process alerts with minimum/maximum tracking ■ RTD measurement protection ■ Loop integrity	★

Performance class

Code	Description	
1	Ultra: 0.09 °F (0.05 °C) accuracy, 20-year stability, 20-year limited warranty, ReadyConnect™ technology	★
4	Classic: 0.14 °F (0.08 °C) accuracy, 10-year stability	★

Transmitter housing material

Connection head material matches transmitter housing material when TR2 remote assemblies are specified.

Code	Description	
A	Aluminum field mount, dual-compartment housing	★
S	Stainless steel (SST) field mount, dual-compartment housing	★

Conduit/cable threads

Connection head conduit/cable threads match transmitter housing conduit/cable threads when TR2 remote assemblies are specified.

Code	Description	
1	½-14 NPT	★
2	M20 x 1.5	★

Transmitter output

Code	Description	
A	4-20 mA with digital signal based on HART® protocol	★

Rosemount X-well™ process temperature range

Code	Sensor type	Process temperature range	Transmitter mounting style	Performance(1)	
TR1	Standard range	-58 to +572 °F (-50 to +300 °C)	Direct	Industry leading	★
TR2	Extended range	-76 to +1202 °F (-60 to +650 °C)	Remote(2)	Industry standard	★

(1) *Refer to Rosemount X-well Product Data Sheet for performance expectations and more information.*
(2) *TR2 remote assemblies include connection head, cable glands, and remote cable.*

Sample Model: 3144PD1A1NAB4M5 3144S1A4A1AM6B4

Rosemount X-well™ pipe mount design

Code	Description	Pipe size range (nominal)	Pipe size range (DIN)	
PM1	Small Pipe Mount	½ to 1½ in.	DN15 to DN40	★
PM2	Universal Pipe Mount	2 to 60 in.	DN50 to DN1500	★
PM9	Universal Pipe Mount no banding	2 to 60 in.	DN50 to DN1500	★

Rosemount X-well™ pipe mount material

Code	X-well pipe mount material	Temperature range (°F)	Temperature range (°C)	
MC1	316 stainless steel (SST)	-76 to +842	-60 to +450	★
MC2	Alloy 625	-76 to +1202	-60 to +650	★

Rosemount X-well™ pipe size

Required with pipe mount design PM1 or PM2.

Code	Suitable pipe sizes (diameter)			
	Inches	DIN	Millimeters	
S005	½ in.	DN15	22 mm	★
S007	¾ in.	DN20	27 mm	★
S010	1 in.	DN25	34 mm	★
S012	1¼ in.	DN32	43 mm	★
S015	1½ in.	DN40	49 mm	★
S020	2 in.	DN50	61 mm	★
S025	2½ in.	DN65	77 mm	★
S030	3 in.	DN80	89 mm	★
S040	4 in.	DN100	115 mm	★
S050	5 in.	DN125	140 mm	★
S060	6 in.	DN150	169 mm	★
S080	8 in.	DN200	220 mm	★
S100	10 in.	DN250	273 mm	★
S120	12 in.	DN300	324 mm	★
S140	14 in.	DN350	356 mm	★
S160	16 in.	DN400	407 mm	★
S180	18 in.	DN450	458 mm	★
S200	20 in.	DN500	508 mm	★
S240	24 in.	DN600	610 mm	★
S260	26 in.	DN650	660 mm	★
S300	30 in.	DN750	762 mm	★
S320	32 in.	DN790	813 mm	★
S360	36 in.	DN900	915 mm	★
S400	40 in.	DN1000	1016 mm	★

Code	Suitable pipe sizes (diameter)			
	Inches	**DIN**	**Millimeters**	
S420	42 in.	DN1050	1070 mm	★
S480	48 in.	DN1200	1219 mm	★
S520	52 in.	DN1300	1321 mm	★
S560	56 in.	DN1400	1423 mm	★
S600	60 in.	DN1500	1524 mm	★

Additional options

Rosemount X-well™ corrosion protection inlay

Corrosion protection inlay placed between mount and pipe prevents galvanic corrosion between dissimilar metals.

Code	Description	
P1	Corrosion protection inlay - material NBR	

Rosemount X-well™ remote mount cable length

Required when you order TR2 extended range sensor.

Code	Description	
L12	12 ft. (3.66 m) shielded cable	★
L24	24 ft. (7.32 m) shielded cable	
L75	75 ft. (22.86 m) shielded cable	

Rosemount X-well™ remote mount cable armor type

Code	Description	
AC	PVC-coated armored cable lead wire extension	

Retrofit kit

Code	Description	
R9	Universal Pipe Mount to Small Pipe Mount retrofit kit	★

Local wireless device access

Code	Description	
BLE	Bluetooth® configuration and maintenance	★

Display type

Code	Description	
M6	Graphical LCD display with **Quick Service** buttons	★
M7	Graphical LCD display (**Quick Service** buttons disabled)	★

Transmitter mounting bracket

Code	Description	Image	
B4	Stainless steel (SST) U-bolt mounting bracket, 2-inch pipe mount		★
BE	316 SST U-bolt mounting bracket, 2-inch pipe mount		★
B5	SST L-bolt mounting bracket, 2-inch pipe and panel mount		★
BH	316 SST L-bolt mounting bracket, 2-inch pipe and panel mount		★

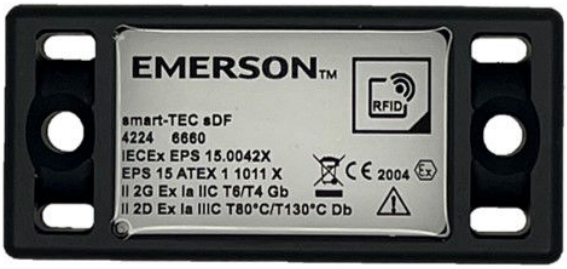
Tagging and fastener material

Aluminum is the default material for fasteners and tagging.

Code	Description	
Y2	316 stainless steel (SST) name plate, top tag, wire-on tag, and fasteners	★

RFID tagging

Provides unique identifier for asset identification.

Code	Description	Example image	
Y3	RFID tag		★

Transient protection

Code	Description	
T1	Transient terminal block	★

Extended product warranty

Code	Description	
WR3	Three-year limited warranty	★
WR5	Five-year limited warranty	★

Software configuration

Required for Rosemount X-well factory configuration of specific pipe characteristics.

Code	Description	
C1	Custom software configuration (requires *Configuration Data Sheet* - available on Emerson.com)	★

5-point calibration

Code	Description	
P5	5-point calibration (requires Q4 option code to generate calibration certificate)	★

Alarm limit

Code	Description	
C4	NAMUR alarm and saturation levels, High alarm	★
C5	NAMUR alarm and saturation levels, Low alarm	★
C6	Custom alarm and saturation signal levels, High alarm (requires C1 and *Configuration Data Sheet* - available on Emerson.com)	★
C7	Custom alarm and saturation signal levels, Low alarm (requires C1 and *Configuration Data Sheet* - available on Emerson.com)	★
C8	Low alarm (standard Rosemount alarm and saturation levels)	★

Ground screw

Code	Description	
G1	External ground screw assembly	★

Conduit plug

Code	Description	
DO	316 stainless steel (SST) conduit plug	★

Conduit electrical connector

Code	Description	
GE	M12, 4-pin, male connector (eurofast®)	★
GM	A size mini, 4-pin, male connector (minifast®)	★

Cold temperature

Code	Description	
BR5	-58 °F (-50 °C) cold temperature operation	★
BR6	-76 °F (-60 °C) cold temperature operation	★

Calibration certification

Code	Description	
Q4	Calibration certificate	★
QP	Calibration certificate and tamper evident seal	★

Quality certification for safety

Code	Description	
QT	Safety certified to IEC 61508 with certificate of failure modes, effects, and diagnostic analysis (FMEDA) data	★

Line filter

Code	Description	
FD	Dual notch line voltage filter (50 and 60 Hz)	★
F5	50 Hz line voltage filter	★
F6	60 Hz line voltage filter	★

Shipboard approval

Code	Description	
SBS	American Bureau of Shipping (ABS) type approval	★
SBV	Bureau Veritas (BV) type approval	★
SDN	Det Norske Veritas (DNV) type approval	★
SLL	Lloyd's Register (LR) type approval	★

Product certifications

Code	Description	
K1	ATEX Flameproof, Intrinsic Safety	★
E1	ATEX Flameproof	★
I1	ATEX Intrinsic Safety	★
K5	USA Explosion-proof, Intrinsically Safe, Division 2	★
E5	USA Explosion-proof	★
I5	USA Intrinsically Safe, Division 2	★
K6	Canada Explosion-proof, Intrinsically Safe, Division 2	★
E6	Canada Explosion-proof	★
I6	Canada Intrinsically Safe, Division 2	★
K7	IECEX Flameproof, Intrinsic Safety	★
E7	IECEx Flameproof	★
I7	IECEx Intrinsic Safety	★

Specifications

Functional specifications

Inputs

User-selectable. See Table 1 and Table 2.

Output

Two-wire device with 4-20 mA/HART®, linear with temperature, or input.

Isolation

Input/output isolation specified to 500 Vdc (500 Vrms 707 V peak) at 50/60 Hz

Humidity limits

0-100 percent relative humidity, non-condensing

NAMUR recommendations

The Rosemount 3144S meets the following NAMUR recommendations:

NE 21	Electromagnetic (EMC) compatibility for process and laboratory apparatus
NE 43	Standard of the signal level breakdown information of digital transmitters
NE 53	Revision controlled labeling for software and hardware changes
NE 89	Standard of temperature transmitters with digital signal processing
NE 95	Basic principles of homologation
NE 107	Self-monitoring and diagnosis of field devices
NE 131	NAMUR standard device

Update time

Approximately 0.25 seconds for a single sensor (0.5 seconds for dual sensors)

Physical specifications

Material selection

Emerson provides a variety of Rosemount products with various product options and configurations, including materials of construction that can be expected to perform well in a wide range of applications.

The product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser's sole responsibility to make a careful analysis of all process parameters (such as all chemical components, temperature, pressure, flow rate, abrasives, contaminants, etc.), when specifying product, materials, options, and components for the particular application. Emerson is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product, options, configuration, or materials of construction selected.

Conformance to specification (±3σ [Sigma])

Technology leadership, advanced manufacturing techniques, and statistical process control ensure specification conformance to at least ±3σ.

Conduit connections

The standard field mount housing has ½–14-inch NPT conduit entries. M20 x 1.5 (CM20) conduit entry is also available. When an M20 x 15 (CM20) conduit entry housing option is ordered, the adapters come in the box unassembled to transmitter.

Materials of construction

Enclosure	Low-copper aluminum or CF-8M (cast version of 316 stainless steel)
Paint	Polyurethane
O-rings	Buna N

Mounting specifications

Transmitters may be attached directly to the sensor.

Optional mounting brackets (codes B4, B5, BE, and BH) allow for remote mounting.

Transmitter weight

Aluminum	3.4 lb. (1.6 kg)
Stainless steel	9.2 lb. (4.2 kg)
Aluminum with LCD display	3.8 lb. (1.7 kg)
Stainless steel with LCD display	9.6 lb. (4.4 kg)

Enclosure ratings

Type 4X

IP66 and IP68

10-year stability

RTDs	±0.25 percent of reading or 0.25 °C, whichever is greater, for 10 years.
Thermocouples	±0.5 percent of reading or 0.5 °C, whichever is greater, for 10 years.

20-year stability (Ultra Performance Class)

RTDs	±0.25 percent of reading or 0.25 °C, whichever is greater, for 20 years.
Thermocouples	±0.5 percent of reading or 0.5 °C, whichever is greater, for 20 years.

Vibration effect

Tested to the following with no effect on performance per IEC 61298-1, 2008

Frequency vibration

10 to 60 Hz	0.01 in. (0.21 mm) displacement
10 to 1000 Hz	5 g peak calibration

Self calibration

The analog-to-digital measurement circuitry automatically self-calibrates for each temperature update by comparing the dynamic measurement to extremely stable and accurate internal reference elements.

Electromagnetic compatibility (EMC)

Meets all industrial environment requirements of EN61326 and NAMUR NE-21. Maximum deviation <1 percent span during EMC disturbance.

Note
During surge event, device may exceed maximum EMC deviation limit; however, device will self-recover and return to normal operation within specified start-up time.

External ground screw assembly

To order the external ground screw assembly, specify code G1. However, some approvals include the ground screw assembly in the transmitter shipment; in these cases, it is not necessary to order code G1. The following table identifies which approval options include the external ground screw assembly.

Approval type	External ground screw assembly included?(1)
E5, E6, I1, I5, I6, I7, K5, K6, KL	No - order option code G1 to include ground screw assembly in shipment.
E1, E7, K1, K7, KS	Yes

(1) *The parts contained within the G1 option are included with the Integral transient protection option code T1.*

When ordering T1, you do not need to order the G1 option code.

Hardware tag

- No charge.
- One line of 32 characters.
- Tag material matches housing material (Y2 option drives 316 stainless steel [SST] for aluminum housings).
- Permanently attached to transmitter.
- Character height is 0.05 in. (1.3 mm).
- A wire-on tag is available upon request. Five lines of 12 characters (60 characters total).

Software tag

- Transmitter can store up to 32 characters.
- Can be ordered with different software and hardware tags.
- If no software tag characters are specified, the first eight characters of the hardware tag are the default.

Transmitter accuracy

For Rosemount X-well™ Technology, refer to the *Rosemount X-well Technology Product Data Sheet* (available on Emerson.com).

Table 1: Transmitter Accuracy (RTDs)

Sensor options	Sensor reference	Input ranges		Minimum span[1]		Classic performance accuracy		Ultra performance accuracy		Digital to analog (D/A) accuracy[2]
2, 3, or 4-wire RTDs		°C	°F	°C	°F	°C	°F	°C	°F	
Pt 100 α = 0.00385	IEC 751	-200 to +850	-328 to +1022	10	18	±0.08	±0.14	±0.05	±0.09	±0.0125% of analog span
Pt 50 α = 0.00391	GOST 6651-94	-200 to +550	-328 to +1022	10	18	±0.20	±0.36	±0.16	±0.29	±0.0125% of analog span
Pt 100 α = 0.00391	GOST 6651-94	-200 to +550	-328 to +1022	10	18	±0.08	±0.14	±0.05	±0.09	±0.0125% of analog span
Pt 100 α = 0.003196	JIS 1604	-200 to +645	-328 to +1193	10	18	±0.08	±0.14	±0.05	±0.09	±0.0125% of analog span
Pt 200 α = 0.00385	IEC 751	-200 to +850	-328 to +1562	10	18	±0.22	±0.40	±0.176	±0.32	±0.0125% of analog span
Pt 200 α = 0.003916	JIS 1604	-200 to +645	-328 to +1193	10	18	±0.22	±0.40	±0.176	±0.32	±0.0125% of analog span
Pt 500 α = 0.00385	IEC 751	-200 to +850	-328 to +1562	10	18	±0.11	±0.20	±0.09	±0.16	±0.0125% of analog span
Pt 1000 α = 0.00385	IEC 751	-200 to +300	-328 to +572	10	18	±0.08	±0.14	±0.05	±0.09	±0.0125% of analog span
Ni 120	Edison curve number 7	-70 to +300	-94 to +572	10	18	±0.08	±0.14	±0.05	±0.09	±0.0125% of analog span
Cu10	Edison copper winding number 15	-50 to +250	-58 to +482	10	18	±1	±1.80	±0.80	±1.40	±0.0125% of analog span
Cu100 α = 0.00428	GOST 6651-94	-185 to +200	-301 to +392	10	18	±0.12	±0.22	±0.12	±0.22	±0.0125% of analog span
Cu50 α = 0.00428	GOST 6651-94	-185 to +200	-301 to +392	10	18	±0.20	±0.36	±0.12	±0.22	±0.0125% of analog span
Cu100 α = 0.00426	GOST 6651-94	-50 to +200	-58 to +482	10	18	±0.10	±0.18	±0.09	±0.16	±0.0125% of analog span

Table 1: Transmitter Accuracy (RTDs) *(continued)*

Sensor options	Sensor reference	Input ranges		Minimum span[1]		Classic performance accuracy		Ultra performance accuracy		Digital to analog (D/A) accuracy[2]
2, 3, or 4-wire RTDs		°C	°F	°C	°F	°C	°F	°C	°F	
Cu50 α = 0.00426	GOST 6651-94	-50 to +200	-58 to +482	10	18	±0.20	±0.36	±0.10	±0.18	±0.0125% of analog span

(1) *No minimum or maximum span restrictions within the input ranges. Recommended minimum span will hold noise within accuracy specification with damping at zero seconds.*

(2) *Applies to 4-20 mA devices.*

Table 2: Transmitter Accuracy (Thermocouples)

Total digital accuracy for thermocouple measurement: sum of digital accuracy + 0.45 °F (0.25 °C) (cold junction accuracy)

Thermocouple option	Sensor reference	Input ranges		Minimum span[1]		Classic performance accuracy		Ultra performance accuracy		Digital to analog (D/A) accuracy[2]
		°C	°F	°C	°F	°C	°F	°C	°F	
Type B[3]	NIST monograph 175, IEC 584	+100 to +1820	+212 to +3308	25	45	±0.60	±1.08	±0.60	±1.08	±0.0125% of analog span
Type E	NIST monograph 175, IEC 584	-200 to +1000	-328 to +1832	25	45	±0.20	±0.36	±0.20	±0.36	±0.0125% of analog span
Type J	NIST monograph 175, IEC 584	-180 to +760	-292 to +1400	25	45	±0.20	±0.36	±0.20	±0.36	±0.0125% of analog span
NIST Type K[4]	NIST monograph 175, IEC 584	-180 to +1372	-292 to +2502	25	45	±0.20	±0.36	±0.20	±0.36	±0.0125% of analog span
Type N	NIST monograph 175, IEC 584	-200 to +1300	-328 to +2732	25	45	±0.35	±0.63	±0.35	±0.63	±0.0125% of analog span
Type R	NIST monograph 175, IEC 584	0 to +1768	+32 to +3214	25	45	±0.50	±0.90	±0.50	±0.90	±0.0125% of analog span
Type S	NIST monograph 175, IEC 584	0 to +1768	+32 to +3214	25	45	±0.50	±0.90	±0.50	±0.90	±0.0125% of analog span
Type T	NIST monograph 175, IEC 584	-200 to +400	-328 to +752	25	45	±0.20	±0.36	±0.20	±0.36	±0.0125% of analog span
DIN Type L	DIN 43710	-200 to +900	-328 to +1652	25	45	±0.25	±0.45	±0.25	±0.45	±0.0125% of analog span
DIN Type U	DIN 43710	-200 to +600	-328 to +1112	25	45	±0.25	±0.45	±0.25	±0.45	±0.0125% of analog span
GOST L	GOST R 8.585-2001	-200 to +800	-328 to +1472	25	45	±0.25	±0.45	±0.25	±0.45	±0.0125% of analog span
Type W5Re/ W26Re	ASTM E 988-96	0 to +2000	+32 to +3632	25	45	±0.70	±1.26	±0.70	±1.26	±0.0125% of analog span
Millivolt input	N/A	-10 to 100 mV		3 mV		±0.015 mV		±0.015 mV		±0.0125% of analog span
Ohm input	N/A	0 to 500 ohms		N/A	N/A	±0.2 ohms		±0.06 ohms		±0.0125% of analog span

Table 2: Transmitter Accuracy (Thermocouples) *(continued)*

Thermocouple option	Sensor reference	Input ranges		Minimum span[1]		Classic performance accuracy		Ultra performance accuracy		Digital to analog (D/A) accuracy[2]
		°C	°F	°C	°F	°C	°F	°C	°F	
Ohm input	N/A	0 to 2000 ohms		N/A	N/A	±0.2 ohms		±0.1 ohms		±0.0125% of analog span

(1) *No minimum or maximum span restrictions within the input ranges. Recommended minimum span will hold noise within accuracy specification with damping at zero seconds.*
(2) *Applies to 4-20 mA devices.*
(3) *Digital accuracy for NIST Type B is ±5.4 °F (±3 °C) from 212 to 572 °F (100 to 300 °C).*
(4) *Digital accuracy for NIST Type K is ±0.9 °F (±0.5 °C) from -292 to -130 °F (-190 to -90 °C).*

Reference accuracy example

When using a Pt100 (α = 0.00385) sensor input with a 32 to 212 °F (0 to 100 °C) span:

- Digital accuracy would be ±0.08 °C (for Classic Performance).
- Digital to analog (D/A) accuracy would be ±0.0125 percent of +100 °C or ±0.0125 °C.
- Total = ±0.0925 °C

Differential capability exists between any two sensor types (dual-sensor option)

For all differential configurations, the input range is X to Y where:

- X = Sensor 1 minimum – Sensor 2 maximum
- Y = Sensor 1 maximum – Sensor 2 minimum

Digital accuracy for differential configurations (dual-sensor option)

- Sensor types are similar (for example, both RTDs or both thermocouples [T/Cs]): Digital accuracy = 1.5 times worst case accuracy of either sensor type
- Sensor types are dissimilar (for example, one RTD, one T/C): Digital accuracy = Sensor 1 accuracy + Sensor 2 accuracy

Ambient temperature effect

You may install transmitters in locations where the ambient temperature is between -40 and +185 °F (-40 and +85 °C).

To maintain excellent accuracy performance, each transmitter is individually characterized over this ambient temperature range at the factory. For temperatures from -76 to -40 °F (-60 to -40 °C), this specification is increased 3X.

Table 3: Ambient Temperature Effect on Digital Accuracy for 2, 3, and 4-Wire RTDs

Sensor option	Sensor reference	Effect per 1 °C (1.8 °F) change in ambient[1]	Range[2]	Digital to analog (D/A) effect
Pt 100 α = 0.00385	IEC 751	0.0015 °C	Entire sensor input range	±0.00063% of span
Pt 50 α = 0.00391	GOST 6651-94	0.003 °C	Entire sensor input range	±0.00063% of span
Pt 100 α = 0.00391	GOST 6651-94	0.0015 °C	Entire sensor input range	±0.00063% of span
Pt 100 α = 0.003916	JIS 1604	0.0015 °C	Entire sensor input range	±0.00063% of span

Table 3: Ambient Temperature Effect on Digital Accuracy for 2, 3, and 4-Wire RTDs *(continued)*

Sensor option	Sensor reference	Effect per 1 °C (1.8 °F) change in ambient[1]	Range[2]	Digital to analog (D/A) effect
Pt 200 α = 0.00385	IEC 751	0.0023 °C	Entire sensor input range	±0.00063% of span
Pt 200 α = 0.003916	JIS 1604	0.0023 °C	Entire sensor input range	±0.00063% of span
Pt 500 α = 0.00385	IEC 751	0.0015 °C	Entire sensor input range	±0.00063% of span
Pt 1000 α = 0.00385	IEC 751	0.0015 °C	Entire sensor input range	±0.00063% of span
Ni 120	Edison curve number 7	0.001 °C	Entire sensor input range	±0.00063% of span
Cu10	Edison copper winding number 15	0.015 °C	Entire sensor input range	±0.00063% of span
Cu100 α = 0.00428	GOST 6651-94	0.0015 °C	Entire sensor input range	±0.00063% of span
Cu50 α = 0.00428	GOST 6651-94	0.003 °C	Entire sensor input range	±0.00063% of span
Cu100 α = 0.00426	GOST 6651-94	0.0015 °C	Entire sensor input range	±0.00063% of span
Cu50 α = 0.00426	GOST 6651-94	0.003 °C	Entire sensor input range	±0.00063% of span

(1) *Change in ambient is in reference to the calibration temperature of the transmitter (73 °F [23°C]).*
(2) *Temperature effects (change/°C) are not intended to limit the change in errors in any one degree, but rather to serve in defining a "butterfly" error band over the full ambient temperature range and include the errors defined by "accuracy" at the narrowest point (room temperature).*

Table 4: Ambient Temperature Effect on Digital Accuracy of Thermocouples

Thermocouple option	Sensor reference	Effect per 1.8 °F (1 °C) change in ambient[1]	Range[2]	D/A effect
Type B	NIST monograph 175, IEC 584	0.014 °C	T ≥ 1000 °C	±0.00063% of span
		0.029 °C - 0.0021% of (T - 300 °C)	300 °C ≤ T ≤ 1000 °C	±0.00063% of span
		0.046 °C - 0.0086% of (T - 100 °C)	100 °C ≤ T ≤ 300 °C	±0.00063% of span
Type E	NIST monograph 175, IEC 584	0.004 °C + 0.00043% of T	Entire sensor input range	±0.00063% of span
Type J	NIST monograph 175, IEC 584	0.004 °C + 0.00029% of T	T ≥ 0 °C	±0.00063% of span
		0.004 °C + 0.002% of absolute value T	T < 0 °C	±0.00063% of span
Type K	NIST monograph 175, IEC 584	0.004 °C + 0.00054% of T	T ≥ 0 °C	±0.00063% of span
		0.004 °C + 0.0002% of absolute value T	T < 0 °C	±0.00063% of span
Type N	NIST monograph 175, IEC 584	0.005 °C + 0.00036% of T	Entire sensor input range	±0.00063% of span
Type R and S	NIST monograph 175, IEC 584	0.015 °C	T ≥ 200 °C	±0.00063% of span
		0.021 °C - 0.0032% of T	T < 200 °C	±0.00063% of span

Table 4: Ambient Temperature Effect on Digital Accuracy of Thermocouples *(continued)*

Thermocouple option	Sensor reference	Effect per 1.8 °F (1 °C) change in ambient[1]	Range[2]	D/A effect
Type T	NIST monograph 175, IEC 584	0.005 °C	T ≥ 0 °C	±0.00063% of span
		0.005 °C + 0.0036% of absolute value T	T < 0 °C	±0.00063% of span
DIN Type L	DIN 43710	0.0054 °C + 0.00029% of T	T ≥ 0 °C	±0.00063% of span
		0.0054 °C + 0.0025% of T	T < 0 °C	±0.00063% of span
DIN Type U	DIN 43710	0.0064 °C	T ≥ 0 °C	±0.00063% of span
		0.0064 °C + (0.0043% of absolute value of T)	T < 0 °C	±0.00063% of span
GOST Type L	GOST R 8.585-2001	0.005 °C	T > 0	±0.00063% of span
		0.005 °C - (0.003% of T)	T ≤ 0	±0.00063% of span
Type W5Te/W26Te	ASTM E 988-96	0.016 °C	T ≥ 200 °C	±0.00063% of span
		0.023 °C + 0.0036% of T	T < 200 °C	±0.00063% of span
Millivolt input	N/A	0.00025 mV	Entire sensor input range	±0.00063% of span
2, 3, or 4-wire ohm input	N/A	0.007 Ω	Entire sensor input range	±0.00063% of span

(1) *Change in ambient is in reference to the calibration temperature of the transmitter (73 °F [23°C]).*
(2) *Temperature effects (change/°C) are not intended to limit the change in errors in any one degree, but rather to serve in defining a "butterfly" error band over the full ambient temperature range and include the errors defined by "accuracy" at the narrowest point (room temperature).*

Total probable error (TPE)

Total probable error can be determined using the following components:

1. Digital accuracy = °C
2. Digital to analog (D/A) accuracy = (% of transmitter span) x (process temperature change)
3. Digital temperature effects = (°C per 1.0 °C change in ambient temperature) x (ambient temperature - reference temperature)
4. D/A effects = (% of span) x (process temperature range)
5. Sensor accuracy = °C

$$\mathrm{TPE}=\sqrt{(\mathrm{DigitalAccuracy})^2+(\mathrm{D/AAccuracy})^2+(\mathrm{DigitalTempEffects})^2+(\mathrm{D/AEffects})^2+(\mathrm{SensorAccuracy})^2}$$

Example for a Rosemount 3144S Pt 100 (α = 0.00385) with the following conditions:

Reference temperature	20 °C
Process temperature change	100 °C
Ambient temperature	30 °C
Operating temperature	120 °C

1. Digital accuracy = 0.05 °C
2. D/A accuracy = (0.0125%) x (100 °C) = ±0.0125 °C
3. Digital temperature effects = (0.0015 °C/°C) x (30-20 °C) = 0.015 °C
4. D/A effect = (0.0063%) x (100 °C) = 0.00063 °C

5. Sensor accuracy = 0.39 °C at 120 °C for a class A RTD sensor
6. TPE =

$$\sqrt{(0.05)^2 + (0.0125)^2 + (0.015)^2 + (0.00063)^2 + (0.39)^2} = 0.394^{\circ}\text{C}$$

HART®/4-20 mA specifications

Power supply

The voltage required across the transmitter power terminals is dependent on loop resistance and product performance class (as listed in the model code).

Voltage input range

Classic Performance (see Figure 2): 11.5 to 42.4 Vdc

Ultra Performance (see Figure 3): 16.7 to 42.4 Vdc

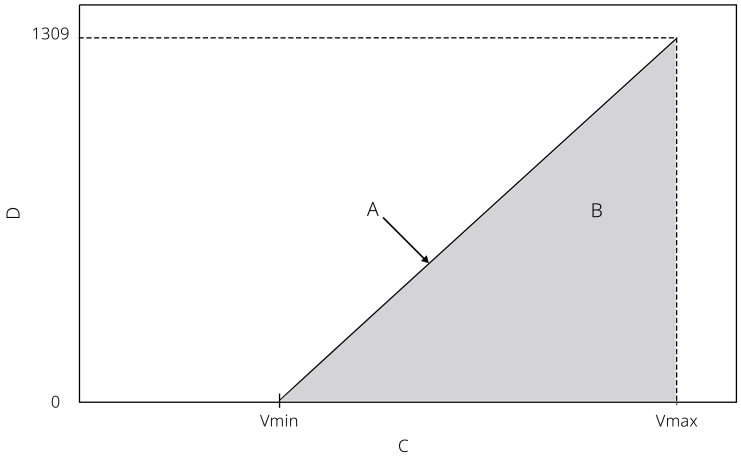
The combination of power supply voltage and total loop resistance must be within the operating regions shown in Figure 2 and Figure 3. At least 250 ohms of resistance in the loop are required for reliable HART® communication.

Load line equations

Load line 1: Supply voltage = (loop resistance * 0.0236) + 11.5 V

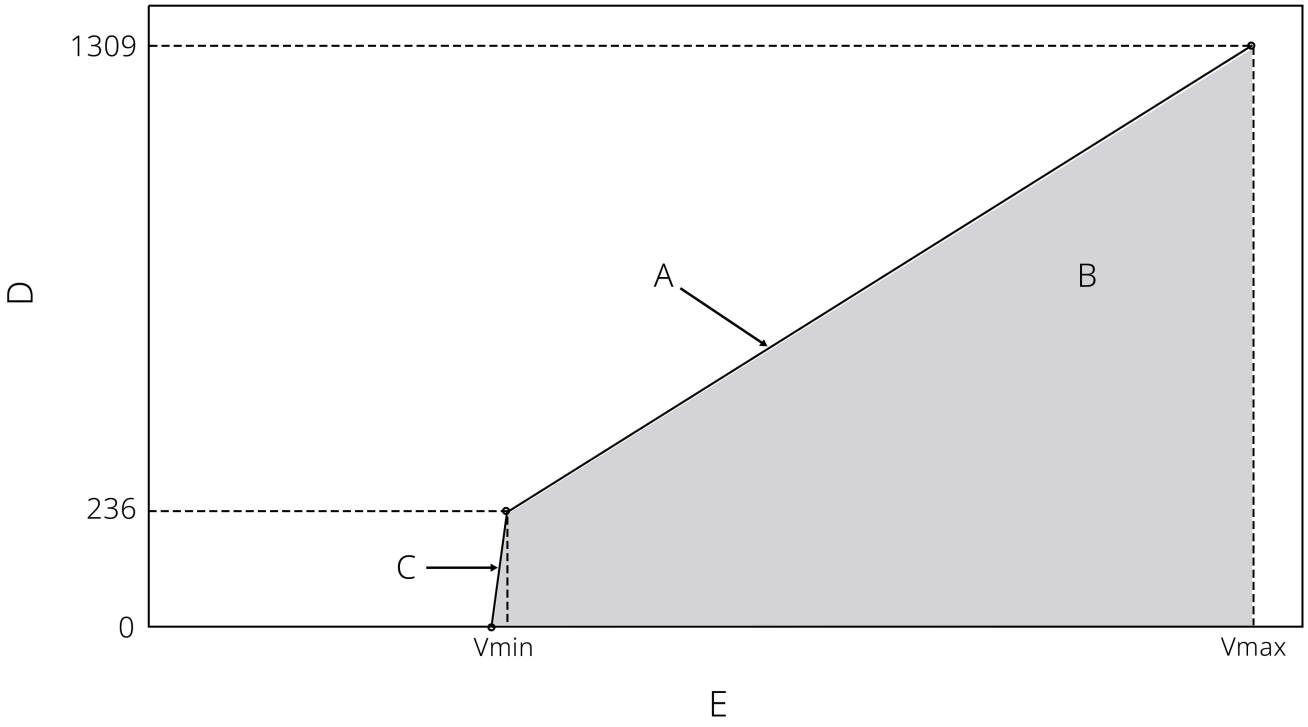
Load line 2: Supply voltage = (loop resistance * 0.0016) + 16.7 V

Figure 2: Classic Performance



A. Load line 1
B. Operating region
C. Power supply voltage (V)
D. Loop resistance (ohms)

Figure 3: Ultra Performance



A. Load line 1
B. Operating region
C. Load line 2
D. Loop resistance (ohms)
E. Power supply voltage (V)

Load line 1 > 236 ohms

Load line 2 < 236 ohms

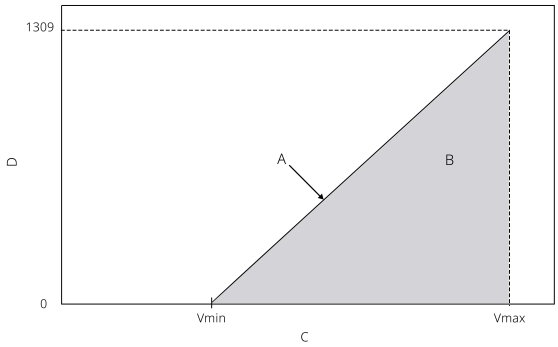
Load limitations

The voltage required across the transmitter power terminals is dependent on loop resistance and product performance class (as listed in the model structure).

The voltage input range is 11.5 to 42.4 Vdc for Classic Performance (see Figure 4). The voltage input range is 16.7 to 42.4 Vdc for Ultra Performance (see Figure 5).

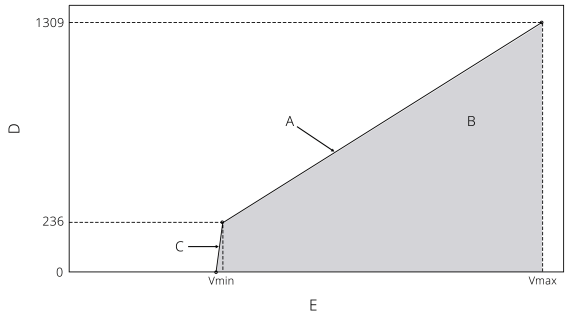
Note
HART® communication requires a loop resistance between 250 and 1100 ohms. Do not communicate with the transmitter when power is below 12 Vdc at the transmitter terminals.

Figure 4: Classic Performance



A. Load line 1
B. Operating region
C. Power supply voltage (V)
D. Loop resistance (ohms)

Figure 5: Ultra Performance



> 236 ohms = Load line 1

< 236 ohms = Load line 2

A. Load line 1
B. Operating region
C. Load line 2
D. Loop resistance (ohms)
E. Power supply voltage (V)

Load line equations

Load line 1: Supply voltage = (loop resistance * 0.0236) + 11.5 V

Load line 2: Supply voltage = (loop resistance *0.0016) + 16.7 V

Wiring diagrams

Wiring diagrams are located on the terminal block.

Terminals 1-4 correspond to Measurement 1, and Terminals 5-8 correspond to Measurement 2. See Figure 6 and Figure 7 for sensor configurations.

Figure 6: Single Sensor Wiring Diagram

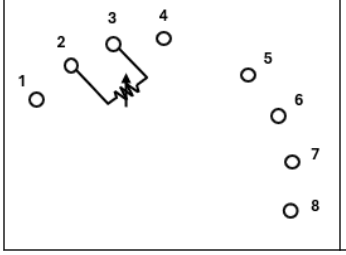
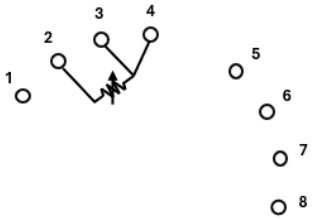
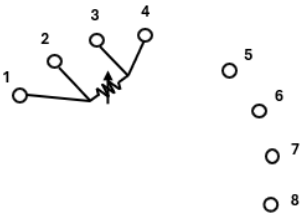
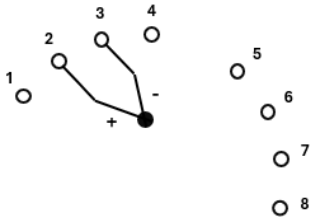
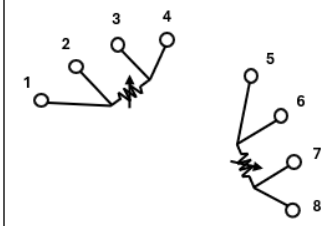
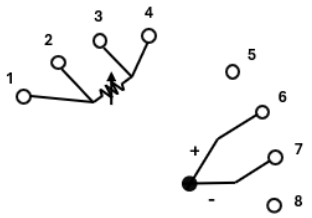
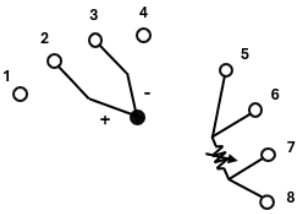
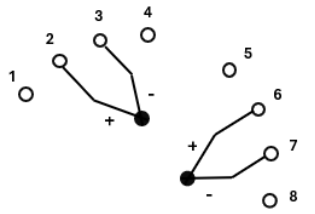
2-wire RTD	3-wire RTD	4-wire RTD	Thermocouple
			

Figure 7: Dual Sensor Wiring Diagram

2 RTDs	RTD/thermocouple	Thermocouple/RTD	2 thermocouples
			

Alarms

Custom factory configurations of alarm and saturation levels are available for valid values with option code C1.

You can also configure these values in the field using a Field Communicator or AMS Device Configurator.

Transient protection (option code T1)

The transient protector helps to prevent damage to the transmitter from transients induced on the loop wiring by lightning, welding, heavy electrical equipment, or switch gears.

Tested in accordance with Institute of Electrical and Electronics Engineers (IEEE) C62.41-2002 Category B

- Ring wave: 6 kV crest, 100 kHz (0.5 µS)
- Combination wave: 3 kA crest (8 / 20 µS) and 6 kV crest (1.2 / 50 µS)
- Nominal clamping voltages: 90 V

Local display

The graphical LCD (GLCD) digital display provides a 128 x 128 pixel display with a back light. The GLCD display includes a 0 to 100 percent bar graph, and the digits are 0.4 in. (8 mm) high.

You can rotate the GLCD display in 90-degree increments using **Quick Service**buttons, AMS Device Configurator, or a Field Communicator.

Display options include engineering units (°F, °C, °R, K, ohms, and millivolts), percent, and milliamperes. While the primary variable will always display, you can set the secondary line to alternate between the following:

- **Measurement 1**
- **Measurement 2**
- **Terminal Temperature**
- **Differential Temperature**

- **Average Temperature**
- **Loop Current**
- **Percent of Range**
- **Alarm Switch State**
- **Security Status**
- **HART Long Tag**
- **Bluetooth Status**

Quick Service buttons

Quick Service buttons (option M6) allow for straightforward commissioning using a simple menu.

The **Quick Service** buttons option allows you to:

- Perform a loop test
- View configuration
- Configure a sensor (with or without ReadyConnect™)
- Rotate the graphical LCD display screen in the field

Turn-on time

The transmitter achieves performance within specifications less than five seconds after power is applied to it when the damping value is set to zero seconds.

Power supply effect

Less than ±0.005 percent of span per volt.

Safety Integrated Systems (SIS) safety transmitter failure values

IEC 61508 safety certified Safety Integrity Level (SIL)2 and SIL3 Claim Limit

- Safety accuracy:
  - Span ≥ +212 °F (+100 °C): ±2 percent of process variable span
  - Span < +212 °F (+100 °C): ±2 °C
- Safety response time: five seconds
- Safety specifications and *Failure Modes, Effects, and Diagnostic Analysis (FMEDA)* report available at Support
- Software suitable for SIL3 applications

Temperature limits

Table 5: Temperature Limits

Operating limit (with or without graphical LCD [GLCD] display)	-40 to +185 °F (-40 to +85°C)
Storage limit	-58 to +248 °F (-50 to +120 °C)
Operating limit with code BR5	-58 to +248 °F (-50 to +120 °C)
Operating limit with code BR6	-76 to +185 °F (-60 to +85 °C)

Note

1. See Table 6 for GLCD operating temperature limits.

2. Transmitters operating below -40 °F (-40 °C) exhibit greater ambient temperature effect than specified in Ambient temperature effect.
3. The BR6 option code provides operation down to -76 °F (-60 °C) ambient without damage to the transmitter.
4. LCD display may not be readable, and LCD display updates will be slower at temperatures below -4 °F (-20 °C).

Table 6: Behavior of Graphical Backlit Display with Quick Service Buttons

Temperature	Quick Service buttons	Display
T < -13 °F (-25 °C)	Locked out(1)(2)	Display may not be visible.
-13 °F (-25 °C) < T < +32 °F (0 °C)	Functional	9 second screen refresh
T > +32 °F (0 °C)	Functional	3 second screen refresh

(1) *If you are in the middle of a **Quick Service** buttons task when this temperature threshold is crossed, the **Quick Service** buttons will force exit, canceling any in-progress tasks.*
(2) *Locked out: **Quick Service** buttons functionality is inhibited below -13 °F (-25 °C) as the display may not be readable.*

Field Communicator connections

Field Communicator connections are permanently fixed to power/signal block.

Failure mode

The Rosemount 3144S Temperature Transmitter features software and hardware Failure mode detection.

An independent circuit is designed to provide alarm output if the microprocessor or software fails. The alarm direction is user-selectable using the **Alarm** switch.

If failure occurs, the position of the hardware switch determines the direction in which the output is driven (HIGH or LOW). The switch feeds into the digital-to-analog (D/A) converter, which drives the proper alarm output even if the microprocessor fails. The values at which the transmitter drives its output in Failure mode depends on whether it is configured to standard or NAMUR-compliant (NAMUR recommendation NE 43) operation. The values for standard and NAMUR-compliant operation are as follows:

Table 7: Operation Parameters/Alarm Limits

Limits	Factory and customer programmable range	Factory default	
	Alarm value limits	Standard	NAMUR
High alarm	20.2 mA ≤ I ≤ 23.0 mA	22.5 mA	22.5 mA
Low alarm	3.57 mA ≤ I ≤ 3.8 mA	3.725 mA	3.575 mA

Bluetooth® connectivity

Typical range: At least 50 ft. (15 m) line of sight. Maximum communication range will vary depending on orientation, obstacles (person, metal, wall, etc.), or electromagnetic environment.

Rosemount X-well™ specifications

For X-well product specifications, refer to the *Rosemount X-well Technology Product Data Sheet* (available on Emerson.com).

Product certifications

For Rosemount 3144S Temperature Transmitter product certifications, refer to the *Rosemount 3144S Quick Start Guide* (available on Emerson.com).

Dimensional drawings

For Rosemount 3144S Temperature Transmitter dimensional drawings, see *Rosemount 3144S Dimensional Drawings* (available on Emerson.com).

Transmitter standard/custom configuration tables

For Rosemount 3144S Temperature Transmitter standard/custom configuration tables, refer to the *Rosemount 3144S Manual* available on Emerson.com.

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