763RSA Strip Chart Recorder Shelf-Mounted

The 763RSA Series Strip Chart Recorders are microprocessor-based instruments that provide recording on a 100 mm (4 inch) Z-fold or roll chart. They are provided with a highly visible, four-color VFD display and are offered with a choice of one, two, or three pens for recording measured input signals. All operator controls are located on the front panel for ease of use. All settings can be changed without removing the recorder from the shelf. The recorders mount in 202 Series shelves for new installations or in existing 101, 102, 202, or EH Series Shelves for retrofit installations and are both CE and CUL approved.

HIGHLY VISIBLE DIGITAL DISPLAY

The vivid four-color display features five characters for process value, twenty characters for text, and up to three bargraphs. It displays the measured value of each channel with its associated descriptor or scale, and gives a bargraph indication of each value. Also displayed is alarm information for each channel.

ON-SITE CONFIGURATION

The recorders are field-configurable using the integral keypad or a PC running the optional configuration software. All recorders are provided with a port for connection to a PC for configuration.

INPUT ISOLATION

These recorders use a new fully isolated input card technology based on a custom chip set and second order delta/sigma converters that provides high accuracy and stability. The universal Inputs can be configured to accept signals from RTD, thermocouple, current, voltage, millivolt and contact input sources.

USER-SELECTABLE LINEARIZATION

Linear, square root, exponential 3/2, exponential 5/2, and user-defined customized linearizations are available.

WIDE RANGE OF CHART SPEEDS

The chart speed is user-configurable from 1 to 36,000 mm/hr (0.04 to 1417 in/hr).

SPECIALIZED CHANNELS FOR CALCULATION CAPABILITY

These instruments offer a powerful calculated variable capability to perform math functions ranging from simple arithmetic to complex application-specific functions such as %RH, F_o, gas flow compensation, and more. User-defined custom curves are also available to linearize signals from specific transmitters, match tank profiles, etc.

"SMART" ALARMS

Up to four alarms per input or calculated channel for set point, rate-of-change, and deviation can be combined with "jobs" to perform many different tasks on alarm.

CHART ANNOTATION

Prints time and year-2000 compliant date. Scales and logs values to the chart. Custom messages allow the creation of customized text to match the application.

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MEMORY CARD ARCHIVING

With the optional Type I PCMCIA SRAM card, data can be stored in a standard ASCII format compatible with most spreadsheet packages. Also, the recorder's configuration can be stored on the card for transfer to another recorder or to a PC.

PASSWORD PROTECTION

A one- to five-digit, user-defined password provides protection against unauthorized configuration changes. Operator level menu items, without password, allow access for operator control functions only.

OPERATING AND STORAGE CONDITIONS

Influence	Normal Operating Conditions	Transportation and Storage Limits
Ambient Temperature	0 to 50°C	-20 and +70°C
Relative Humidity	5 % to 80% (noncondensing)	5% and 90% (noncondensing)
Supply Voltage • a.c. • d.c. option	• 90 to 264 V; 45 to 65 Hz; • 20 to 53 V	N/A
Mechanical Vibration	≤2g peak at 10 Hz to 150 Hz	≤2g peak at 10 Hz to 150 Hz

PERFORMANCE SPECIFICATIONS

Display Accuracy
Typically ± 0.1 % of range

Pen Accuracy
Typically ± 0.2% of span

Noise Rejection (48 to 62 HZ)
Common mode: >140 dB (channel to channel and channel to ground)
Series mode: >60 dB

Maximum Common Mode Voltage
250 V continuous

Dielectric strength
Channel to ground = 1350 V ac for 1 minute
Channel to channel = 2300 V ac for 1 minute

Response Time
Pen: Less than 1 second full scale pen travel
Display: Less than 0.1 second

Insulation Resistance
>10 MΩ at 500 V dc

Fast Transient
Automatic recovery from IEC 1000-4-4

Static
IEC 1000-4-2, level 4, to 15 kV (air discharge - shelf-mounted, door open)

R.F. Immunity
IEC 1000-4-3, to 10 V/m (level 3)

EMC
EMISSIONS
EN50081-2
IMMUNITY
EN50082-2

Electrical Safety
EN61010. Installation Category II;
Pollution Degree 2

Agency Certification
CUL and CE approved

FUNCTIONAL SPECIFICATIONS

Input Types
Milliamperes (mA), Volts, Millivolts, RTD, Thermocouple, Ohms, and Contact Closure

Input Ranges
mA Input: 4 to 20 mA
Voltage Inputs: 0 to 10 V without attenuator
Thermocouple: See Table 1.
RTD: See Table 2.

Chart Speed
User-configurable from 1 to 36000 mm/hr
(0.04 to 1417 in/hr)

Noise Rejection (48 to 62 Hz)
Common mode: >140 dB (channel to channel and channel to ground)
Series mode: >60 dB

Maximum Common Mode Voltage
250 V continuous

Input Impedance
38 mV, 150 mV and 1 V ranges: >10 MΩ
10 V range: 245 kΩ

Power Consumption
100 VA max.

Mounting Angle
30 degrees inclination from horizontal backward or forward

Channel Update
125 milliseconds

Display Update
0.1 second

Channel Isolation
EN 61010, dc to 65 Hz; 300 V (channel to channel and channel to ground)

Linearization
In addition to linear inputs, the recorder will accept inputs requiring exponential 3/2, exponential 5/2 and square root or user-defined custom linearization. The custom function provides a polynomial curve for up to 32 user-entered point pairs.

PCMCIA Card
Standard Type I SRAM cards can be used to store data in a comma-delimited ASCII format for easy uploading into standard spreadsheet software packages such as Excel and Lotus 1-2-3 or in packed binary for greater storage capacity. Instrument configurations can also be stored on the card and written to or from the recorder. Cards are available in 128 kb, 512 kb and 2 Mb capacities.

Table 1. Input Range Limits - Thermocouple Input

T/C Type	Range Limits (°C)	Limits of Guaranteed Accuracy (°C)	Reference Standard
B	0 and +1820	+490 and +1820	IEC 584.1
C	0 and +2300	+220 and +2300	Hoskins
E	-270 and +1000	-160 and +1000	IEC 584.1
J	-210 and +1200	-160 and +1200	IEC 584.1
K	-270 and +1372	-180 and +1370	IEC 584.1
L	-200 and +900	-100 and +900	DIN 43710-85
N	-270 and +1300	-160 and +1300	IEC 584.1
R	-50 and +1767	0 and +1765	IEC 584.1
S	-50 and +1767	0 and +1765	IEC 584.1
T	-270 and +400	-120 and +400	IEC 584.15
U	-200 and +600	-100 and +600	DIN 43710-85
Ni/NiMo	0 and +1400	+80 and +1400	Ipsen
Platinel II	0 and +1370	+30 and +1370	Engelhard

Table 2. Input Range Limits - RTD Input

RTD Type	Overall Range (°C)	Standard
JPT100	-220 to +630	JIS C1604:1989
Ni100	-60 to +250	DIN 43760:1987
Ni1000	-60 to +250	DIN 43760:1987
Pt100	-60 to +250	IEC 751
Pt100A	-200 to +600	Eurotherm Recorders SA
Pt1000	-200 to +850	IEC 751

PHYSICAL SPECIFICATIONS

Digital Display
Four color, VFD display with five characters for process value, twenty characters for text, and up to four bargraphs. Displays the measured value of each channel with its associated descriptor or scale, and gives a bargraph indication of up to four channels' values in blue, red, green and yellow. Also displayed is alarm information for each channel.

Recorder Mounting
The recorder mounts in 202 Series Shelves for new installations; or in existing 101, 102, 202, or EH Series Shelves for retrofit installations.

Enclosure
Sheet Steel, painted finish, gray color

Front Door
Aluminum die-cast with polycarbonate window

Approximate Mass
3.5 kg (7.7 lb)

MODEL CODE

Description	Model
<u>Strip Chart Recorder, Shelf-Mounted</u>	763RSA
<u>Channels with Annotation</u>	
One Channel	-A
Two Channels	-B
Three Channels	-C
<u>Operating and Instruction Manual Language</u>	
English	E
French	F
German	G
<u>Shunts</u> (Quantity of 250 Ω Shunts)(1)	
None	0
One Shunt	1
Two Shunts	2
Three Shunts	3
<u>Attenuators</u> (Quantity of 100/1 Attenuators)(1)	
None	0
One Attenuator	A
Two Attenuators	B
Three Attenuators	C

(1) Attenuators are required for voltages greater than 10 V dc. Shunts required for 4 to 20 mA dc inputs. One per channel.

MODEL CODE (Cont.)

Description	Model
Options (nine selections maximum)	
3 Channel 24 V Transmitter Power Supply - 120 V ac	-A
3 Channel 24 V Transmitter Power Supply - 240 V ac	-B
Two Totalizers	-E
Four Totalizers	-F
Six Totalizers	-G
Six each Timers and Counters	-H
Six each Totalizers, Timers, and Counters	-J
Advanced Math Level II	-K
Twenty Custom Messages	-L
Three Normally Open Relays (one card)(2)	-M
Chart Illumination	-U
Pen Offset Compensation	-V
24/48 V dc Recorder Power Supply(3)(4)	-X
Roll Chart Drive	-Y
Custom Linearization	-Z
PCMCIA Memory Card Drive (includes configuration save & restore, plus packed data archiving software)(5)	-1

(2)The total number of option cards cannot exceed four per recorder. There are four option card positions.
(3)For 24/48 V dc Recorder Power Supply, Options -A and -B are not available.
(4)CSA certification is not available with 24/48 V dc Power Supply Option.
(5)SRAM Card must be ordered spearately.

ACCESSORIES AND SUPPLIES

Item	Part Number	
Replacement Pen Cartridges		
Blue	L0122BB	
Red	L0122BC	
Green	L0122BD	
Black - Annotation	L0122BF	
SRAM Memory Card Size		
256 K	L0125BY	
2 MB	L0122BK	
6 MB	L0125BB	
Replacement Charts	**Z-Fold**	**Roll**
50 Linear divisions, no range or time markings (Standard)	L0122RQ	L0122RR

OPTIONAL FEATURES

Transmitter Power Supply

Provides isolated, 24 V dc, 100 mA power for up to three 2-wire transmitters.

Integral Totalizers

This option allows up to six assignable totalizers. The totalizers can be configured to totalize a measured channel or calculated variable channel. They can be configured as count-up or count-down, and can be resettable or non-resettable.

6 Totalizers, Timers and Counters

This option enables six totalizers and six timers and counters. The timers can be configured to start at a specific time and date (relative to the real-time clock in the recorder), on a "job", on a contact input, etc. They can also be configured to run for a desired period and repeat at a specific rate. Using "jobs", the timers can initiate actions such as reset totalizer, print log, etc.

The counters can be configured as count-up or count-down and can be decremented or incremented by event inputs, internal triggers, etc. Also, alarms can be configured on the counter to initiate an action when the preset count is reached.

Relay Outputs

Three relay outputs are available in normally open state. Maximum voltage is 250 V, 2 A; maximum switching power is 500 VA or 60 W. Relays can be freely assigned to alarms in the recorder.

Math Level II

Provides 16 configurable calculations that can be recorded, logged and/or displayed in the recorder. Level II functions are: +, -, /, *, Copy, Constant, Modulus, Channel Average, Group Average, Rolling Average, E to the Power, Natural Log, 10 to the power, Log Base 10, Rate of Change, Sample and Hold, Channel Minimum, Channel Maximum, Third Order Polynomial, % Relative Humidity, Fo Calculation, Mass Flow Linear, Mass Flow Square Root, Switch, High Select, Low Select, Time Stamp, and Stop Watch.

PCMCIA Card Drive with ASCII Data Storage

The PCMCIA card drive is used with the TYPE 1 SRAM card for storage of historical data in a standard ASCII, comma-delimited format. The card can also be used to store configurations; configurations can be read from the recorder to the card or from the card to the recorder.

Custom Messages

Provides 20 configurable messages that can be displayed on the LCD display or printed on the chart. Messages can be initiated by timers, contact inputs, alarms, etc. Each message is 20 characters long and can contain embedded sequences for time, date, process value, etc.

Custom Linearization Curves

Allows the entry of a custom linearization consisting of 32 points which can be used in place of the standard linearizations supplied with the recorder.

NOTE
Standard Model 763RSA comes with 50-division Z-fold chart, annotation, and basic math.

ORDERING INSTRUCTIONS – SPECIFY

      1. Model Number
      2. Optional Features

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Foxboro, MA 02035-2099
United States of America

www.foxboro.com
Inside U.S.: 1-866-PHON-IPS
         (1-866-746-6477)
Outside U.S.: 1-508-549-2424
or contact your local Foxboro
representative.
Facsimile: 1-508-549-4999

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