

RFC15-52 RECORDING TEMPERATURE PROGRAMMER



BASIC RFC15-52 MODEL

CHART DRIVES

Description		Code
125V/60Hz	24 H	01
125V/60Hz	7 D	02

ACCESSORIES

Description	Code
None	0
250P Cam Follower Attachment	2

HOW TO ORDER

First select the proper ordering number for the RFC15-52 unit. Next consult element selection matrix, see Page 62. Select chart number, see page 70 and 71, and specify as a separate line item. The chart selected must correspond to specific range of sensing element selected. The RFC15-52 instrument requires a hollow (L-Type) element plunger (code 51 or 52). High ambient temperature head assembly (code 51) is used when the instrument will be located in ambient temperatures between 32°F but not greater than 150°F. Low ambient head assembly should be called out (code 52) when the instrument will be located in ambient temperatures between -30°F and 125°F. If the solution the sensing bulb is being immersed in is of a corrosive nature, see Form 3052, "Guide for use in Corrosive Applications".

Note: Availability of charts will limit element selection.

Sample Order:

Description	Required Number
RFC15-52 Unit	RF07010
with charts	00208004 (from page 71)
with element	109510520 (from page 62 and 63)

For pricing see Form 3028, Mechanical Price Book, page 14.

ABOUT THIS INSTRUMENT

Description

This instrument is a recorder with a two switch control mechanism which provides automatic temperature programming by use of a pre-cut plastic cam. It is used when two temperatures separated by not more than 5 percent of scale range are specified as control points. The instrument contains two internally-mounted three-wire thermostatic relays. Wall mounted (brackets furnished) or flush mounted. CSA listed.

Operation

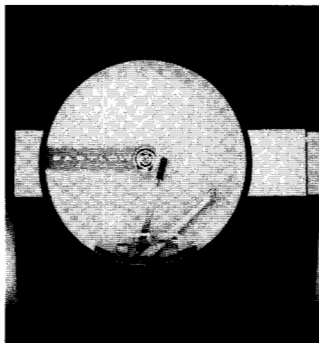
Control point of the RFC15-52 is determined by a cam-follower which rides the edge of a revolving pre-cut cam and positions the snap-acting switches in accordance with the program for which the cam is shaped. Cam is configured and fabricated by end user.

Switches are actuated by the same temperature-responsive mechanism which moves the recording pen, operating at preselected points in relation to the center line of the cam follower roller.

First switch to be actuated on a temperature rise is the leaf-type #15 if normal sensitivity. Second is a super-sensitive #52 pin type, actuated only when the recorded temperature exceeds the operating point of the first switch.

Specifications

Dimensions	15 1/8" W x 13 3/16"H x 4 7/8" D
Chart Diameter	10 inch.
Chart Marking	Felt Tip Cartridge.
Chart Drive	Electric with toggle switch.
Chart Rotation Periods	24 hour and 7 day.
Flush Mount Cutout	13 1/2" W x 12 11/16" H
Surface Mounting	Mounting brackets included.
Electrical Hookup	Terminal block accessible with cover open.
Conduit Openings	One 7/8 inch diameter hole on each side of the case for 1/2 inch conduit fitting; drill guide hole spotted in the rear of the case showing optional rear opening location.
Switch Specifications	#15 and #52 combination only. #15 SPDT, normal sensitivity (1% of element range). #52 SPDT, super sensitive (1/2% of element range).
Electrical Rating	6 amps at 125VAC, inductive or non-inductive load (through 2 pole thermostatic relay contacts).
Rated Accuracy	1% of element range.
Agency Listing	CSA
Warranty	One year, see page 80 for details.
Approx. Net Weight*	9 lbs.
Approx Ship. Weight*	14 lbs.
*Weight may vary depending on element length.	



ELEMENT SELECTION MATRIX

How to Order

Elements are specified by a single matrix number which can be 9 to 15 digits long. The basic unit requires the first nine digits; the adders such as of sleeves, stuffing boxes and coatings are called out in the remaining six boxes. If none of the adders are required, leave the boxes blank. However, if only one or two of these items is required, fill in the unused boxes with zeros.

For pricing see Form 3028, Mechanical Price Book, page 2 and 3.

A - Operating Range

Select the three digit code number representing the temperature range and insert the number in the first three boxes of the ordering matrix.

B - Head Assembly

In selecting the two digit number for head assembly operating temperature, be sure to note the high and low ambient choices. The hollow L-Type plunger is for all non indicating, indicating and recording instruments, except O and N model instruments, which take the solid B Type plunger. Mechanical gas valves require the spring loaded M Type plunger.

C - Capillary Length

Next select capillary length

D - Optional Bulb Sizes

Note the order code used when Teflon® or Geon® coating is specified.

E, F, G

When Sleeves, Stuffing Boxes and/or Coatings are required, continue with E, F, and G.

A OPERATING RANGE AND MATERIAL

List price includes 5' capillary

Temperature Range		Element Material	Order Code
F	C		
120 to 220	50 to 105	Stainless	099
60 to 180	15 to 80	Stainless	096
30 to 160	0 to 70	Stainless	093
30 to 180	0 to 80	Stainless	095
30 to 230	0 to 110	Stainless	100
0 to 700	-25 to 375	Stainless	110
0 to 900	-25 to 475	Stainless	112
0 to 1100	-25 to 600	Stainless	114
0 to 350	20 to 180	Stainless	103
0 to 450	-20 to 230	Stainless	105
0 to 550	-20 to 290	Stainless	107
20 to 120	-5 to 50	Stainless	091
-30 to 170	-35 to 75	Stainless	094
50 to 250	10 to 120	Stainless	101
100 to 350	40 to 175	Stainless	104
100 to 450	40 to 230	Stainless	106
100 to 550	40 to 290	Stainless	108
100 to 650	40 to 340	Stainless	109
100 to 800	40 to 425	Stainless	111
100 to 1000	40 to 540	Stainless	113
100 to 1100	40 to 600	Stainless	115

B HEAD ASSEMBLY

High Ambient Temperature 32° to 150°F	
Plunger Type	Order Code
L	51
B	53
M	55
Low Ambient Temperature -30° to 125°F	
Plunger Type	Order Code
L	52
B	54
M	56

C CAPILLARY LENGTH

Length (feet)	Order Code
1	01
2	02
3	03
4	04
5	05
7	07
10	10
12	12
15	15
20	20
25	25
30	30
35	35
40	40
50	50
60	52
70	54
80	56
90	58
100	60
110	62
120	64

D OPTIONAL BULB SIZES

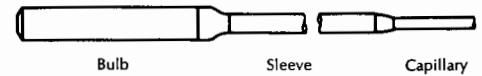
Bulb Type	O.D. (")	Gauge	Range Code	Range Code	Range Code	Range Code	Range Code	Range Code	Range Code	Range Code	Range Code	Range Code	Range Code	Order Code	
			093	095	096	099	100	103	105	107	110	112	114	For Sleeve	No Sleeve
U	.137	.095"	192.27	N/A	N/A	N/A	124.76	72.18	57.42	47.40	37.05	29.34	24.21	N/A	15
Y*	3/16	21	114.41	N/A	124.54	146.80	74.00	42.78	33.87	27.97	21.87	17.29	14.23	N/A	16
P	1/4	20	N/A	N/A	N/A	N/A	N/A	20.58	16.37	3.57	10.77	8.59	7.19	40	17
	5/16	18	N/A	N/A	N/A	N/A	24.94	14.63	11.69	9.70	7.67	6.16	5.15	41	18
	3/8	9/32"	22.55	N/A	N/A	28.72	14.77	8.84	7.13	5.99	4.83	3.69	3.36	43	20
	7/16	18	N/A	N/A	N/A	20.11	10.53	6.45	5.26	4.48	3.68	N/A	N/A	45	22
	1/2	18	11.54	N/A	12.49	14.55	7.74	4.83	4.00	3.44	N/A	2.44	2.16	46	23
	9/16	17	N/A	N/A	N/A	12.03	6.55	4.20	3.51	3.06	N/A	2.25	2.02	47	24
	5/8	17	7.68	6.79	8.26	9.57	5.36	3.55	3.03	2.68	2.33	2.06	N/A	48	25
3/4	16	N/A	5.64	6.02	6.90	4.05	2.84	2.49	2.26	N/A	N/A	N/A	50	27	

* If Teflon or Geon coating is specified for Y-Bulb, use Order Code 51.

(A) (B) (C) (D) (E) (F) (G)



**Element Component
(Head Assembly below)**

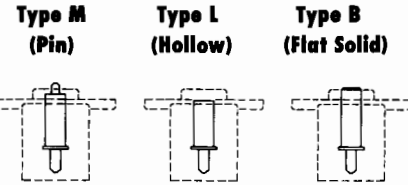


**(G)
COATINGS**

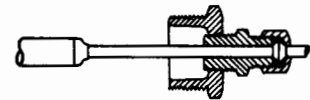
If Teflon or Geon coating is specified, use order code 51 for bulb codes

TEFLON Y-Bulbs Only		Maximum operating temperature 400°F							
Length in Feet	5	10	15	20	25	30	35	40	
	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code
	02	03	04	05	06	07	08	09	
GEON Applies to Range Codes 091, 094, and 101									
Length in Feet	5	10	15	20	25	30	35	40	
	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code
P-Bulb	29	30	31	32	33	34	35	36	
P-Bulb & Sleeve	20	21	22	23	24	25	26	27	
Y-Bulb	11	12	13	14	15	16	17	18	
LEAD 3/8" O.D. x 9/32" I.D. Bulbs only; sleeves 15". Applies to Range Codes 091, 094, 101, 104									
Length in Feet	5	10	15	20	25	30	35	40	
	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code	Order Code
Stainless	47	48	49	50	51	52	53	54	
SST & Sleeve	73	75	77	79	81	83	85	87	

Element Heads



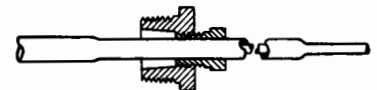
21-T-105-SST



T-112C



Acc. 131C



**(F)
STUFFING BOXES**

Not available if coating is selected

Type	Size (")	Order Code	Remarks
21-T-105 Capillary Only	1/4	02	Compression type fitting 300 psi pressure rating. Can only be installed at time of element fabrication
	3/8	03	
	1/2	04	
	3/4	05	
21-T-105 with 5/16" Sleeve	1/4	20	Compression type fitting 300 psi pressure rating. Can only be installed at time of element fabrication for 5/16" sleeve
	3/8	21	
	1/2	22	
	3/4	23	
T112 Capillary Only	3/8	54	Has slotted bushing to provide connection between capillary and bushing. Use on capillaries only. Non-pressure sealing.
	1/2	55	
	3/4	56	
131 with 5/16" Sleeve	3/8	78	For mech. holding of sleeve. Same construction as T-112. For use on all 5/16" sleeves. Non-pressure sealing.
	1/2	79	
	3/4	80	

**(E)
SLEEVES**

5/16" O.D.

For P-Bulbs Only

Length (")	SST Order Code
5	05
6	06
7	07
8	08
9	09
10	10
15	15

**(D)
OPTIONAL BULB SIZES (CONT.)**

Bulb Type	O.D. (")	Gauge	Range	Range	Range	Range	Range	Range	Range	Range	Range	Range	Order Code	
			Code 091	Code 094	Code 101	Code 104	Code 106	Code 108	Code 109	Code 111	Code 113	Code 115	For Sleeve	No Sleeve
U	.137	.095"	N/A	122.05	124.76	102.10	73.60	57.42	47.10	37.36	29.40	26.66	N/A	15
Y*	3/16	21	146.80	72.39	74.00	60.74	43.61	33.87	27.78	21.99	17.34	15.63	N/A	16
P	1/4	20	N/A	N/A	N/A	28.76	20.86	16.37	13.52	10.82	8.61	7.85	40	17
	5/16	18	N/A	24.41	24.94	20.48	14.87	11.69	9.67	7.75	6.17	5.63	41	18
	3/8	9/32"	28.72	14.47	14.77	12.21	8.97	7.13	5.97	4.86	3.97	3.65	43	20
	7/16	18	20.11	10.32	10.53	8.75	6.53	5.26	4.46	3.70	3.08	2.86	45	22
	1/2	18	14.55	7.59	7.74	6.48	4.90	4.00	3.43	2.89	2.45	2.29	46	23
	9/16	17	12.03	6.43	6.55	5.53	4.24	3.51	3.05	2.61	2.25	2.13	47	24
	5/8	17	9.57	5.27	5.36	4.58	3.59	3.03	2.67	2.34	2.06	1.97	48	25
3/4	16	6.90	4.00	4.05	3.53	2.87	2.49	2.25	2.02	1.84	1.77	50	27	

* If Teflon or Geon coating is specified for Y-Bulb, use Order Code 51.

**Piston Pak
Element**