

SP. No.

Yamatake Corporation

製品仕様書
SPECIFICATIONS

1. Model Number

Model Number	Voltage	Frequency	Flame Detector Used	Flame Response
FRS100C100	AC100V	50/60Hz	C7035A, C7027A	3±1 sec. *
FRS100C200	AC200V			
FRS100C104	AC100V			2 sec. max. *
FRS100C204	AC200V			

* : Flame voltage at 4.2V

2. Electrical Specifications

- (1) Allowable Voltage 85 to 110% of rated voltage
 (2) Power Consumption 7W max.
 (3) Terminal and Electrical Ratings

	Terminal No.	Circuit	Ratings
Subbase *	1 (R)	Power source	Rated voltage
	2 (S)	Power source ground side	
	3	Contact output common	
	4	Flame output (1K, 2K)	250VA
	5 (F)	Flame detector (Blue)	
	6 (G)	Flame detector (White)	
	7	Start/stop input	Rated voltage
	8	Start check output (1K)	250VA
Relay	A *	Flame voltage measuring terminal (-)	DC0 to 5V
	B *	Flame voltage measuring terminal (+)	

* : Use a instrument or recorder having more than 100kΩ input impedance.

Wiring shall be performed using IV wire of min. 0.75 mm² cross sectional area and max. 10m each in wire length.

7 01

6 01


5 01

4 01

3 01

2 01

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作成 DR.		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
I.Harada			
検図 CHK.	形番 MODEL	FRS100C	
Kadoya			
認可 APPD	名称 NAME	Multi Burner Control Flame Relay	
K.Harada			
01	JEO98-0684	8-20-98	Harada Kadoya
改番 REV.	来歴 RECORD	日付 DATE	担当 検閱 BY APPD.
7-15-97		日付 DATE	図番 NO.
		7-15-97	AD12272E
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(4) Dielectric Strength

Device shall be capable of withstanding a potential of 1500VAC 50 or 60Hz for 1 minute, or 1800VAC for 1 second between each terminal and case without breakdown, except Terminal 5 and 6 for flame detector.

(5) Insulation Resistance

Insulation resistance between each terminal and the case shall be more than 50MΩ.

(6) Thunder Lightning Surge

10kV, 1.2 × 50μsec. (JEC-187, surge impedance 75Ω min.)

Connect surge absorber between hot side of power terminal (terminal No.2) and earth.

Recommended Surge Absorber; Spec. No. 10013 (83968019-001)

(7) Life

100,000 cycles (at room temp. and humidity and rated voltage)

(8) Applicable Flame Detector

C7035 or C7027

(9) Flame Response

Flame establishment; Flame voltage 1V max.

Flame-out response; Flame voltage 0.4V min.

(10) Flame Response

Model Number	Flame Response
FRS100C100	3±1 sec. *
FRS100C200	
FRS100C104	2 sec. max. *
FRS100C204	

* : Flame voltage at 4.2V

(11) Flame Voltage Accuracy

±0.5V

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3. Environmental Specifications

(1) Allowable Temperature

- 20 to +45°C when more than 2 units mounted side by side
- 20 to +60°C when single unit mounted

(2) Storage Temperature

-20 to +70°C

(3) Allowable Humidity

90%RH at 40°C (non-condensing)

(4) Mounting

Vertical mount only. Molded allow on the subbase shall point upward direction.


(5) Spacing for Mounting

Provide following min. spacing.

- Upward; 50mm min.
- Downward; 20mm min.
- Both sides; 20mm min.

4. Mounting Subbase

FRS50A100 (To be ordered separately)

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認可 APPD.	名称 NAME	Multi Burner Control Flame Relay	
K.Harada			
日付 DATE	図番 NO.	改番 REV.	3/7
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01	JEO98-0684	8-20-98	Harada	Kadoya
改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.

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5. Operation

(1) Normal

【INPUT】

Start (①-⑦)

Flame Signal F-G(⑤-⑥)

【OUTPUT】

Start Check Output (③-⑧)

Flame Output (③-④)

【DISPLAY】

Power LED

Flame LED

Start Check LED

←→ Flame Response

(2) Operation at False Flame

【INPUT】

Start (①-⑦)

Flame Signal F-G(⑤-⑥)

【OUTPUT】

Start Check Output (③-⑧)


Flame Output (③-④)

【DISPLAY】

Power LED

Flame LED

Start Check LED

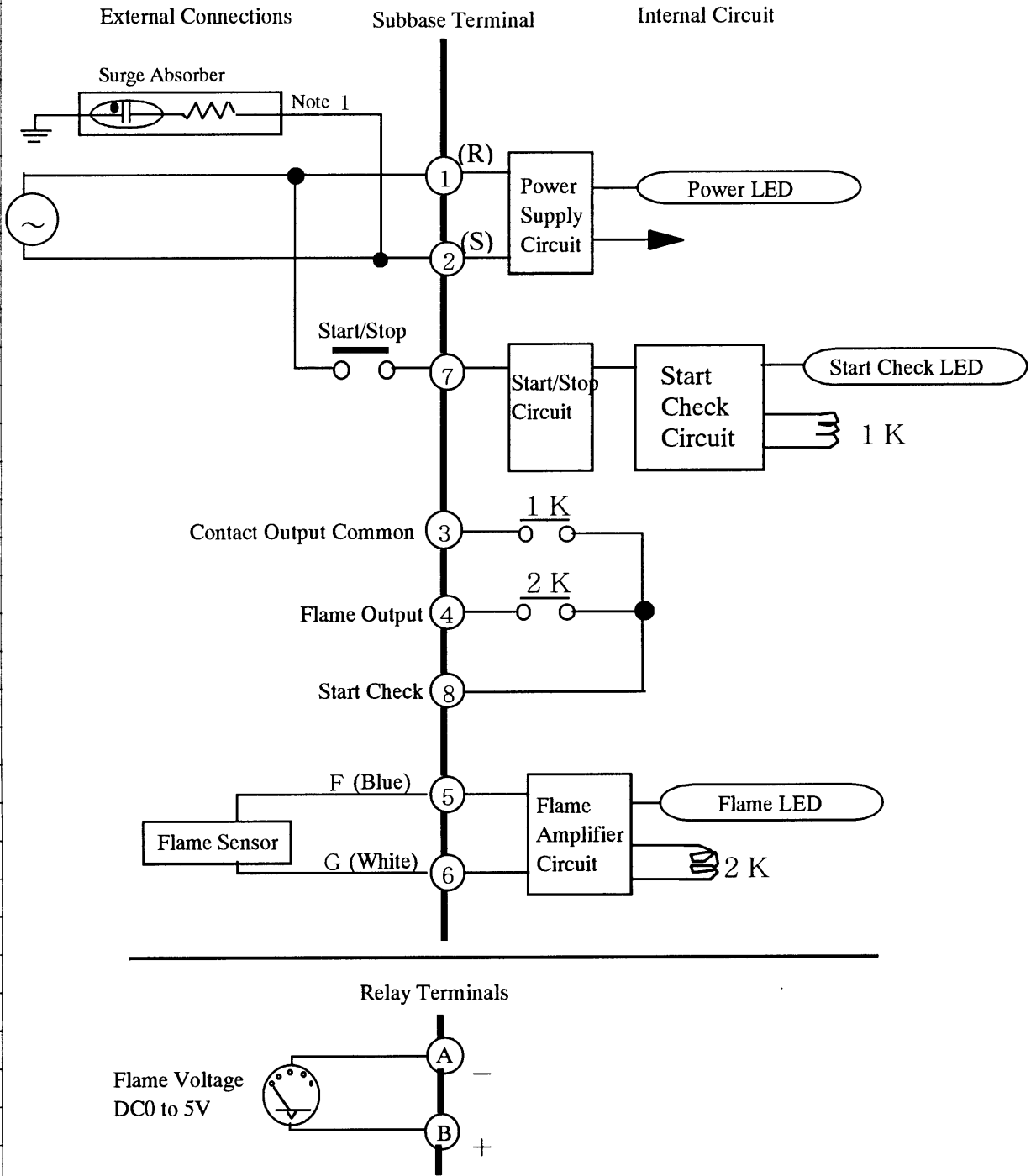
作成 DR. I.Harada		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
検図 CHK. Kadoya	形番 MODEL	FRS100C	
認可 APPD K.Harada	名称 NAME	Multi Burner Control Flame Relay	
改番 REV. 01	来歴 RECORD	日付 DATE	担当 BY
改番 REV. 01	図番 NO.	AD12272E	
改番 REV. 01	改番 REV. 01	改番 REV. 01	改番 REV. 4/7

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6. Wiring Diagram




Note 1: Provide one surge absorber for multiple relays.

作成 DR.	I.Harada	検図 CHK.	Kadoya	認可 APPD.	K.Harada	図番 NO.	AD12272E	改番 REV.	01
尺度 SCALE		記入のない公差	TOL. UNLESS NOTED	形番 MODEL	FRS100C				
名称 NAME	Multi Burner Control Flame Relay								
日付 DATE	7-15-97	担当 BY	Harada	検閱 APPD.	Kadoya	日付 DATE	7-15-97	改番 REV.	5/7
頁	改番	改番 REV.	01	来歴 RECORD	JEO98-0684	日付 DATE	8-20-98	担当 BY	Harada

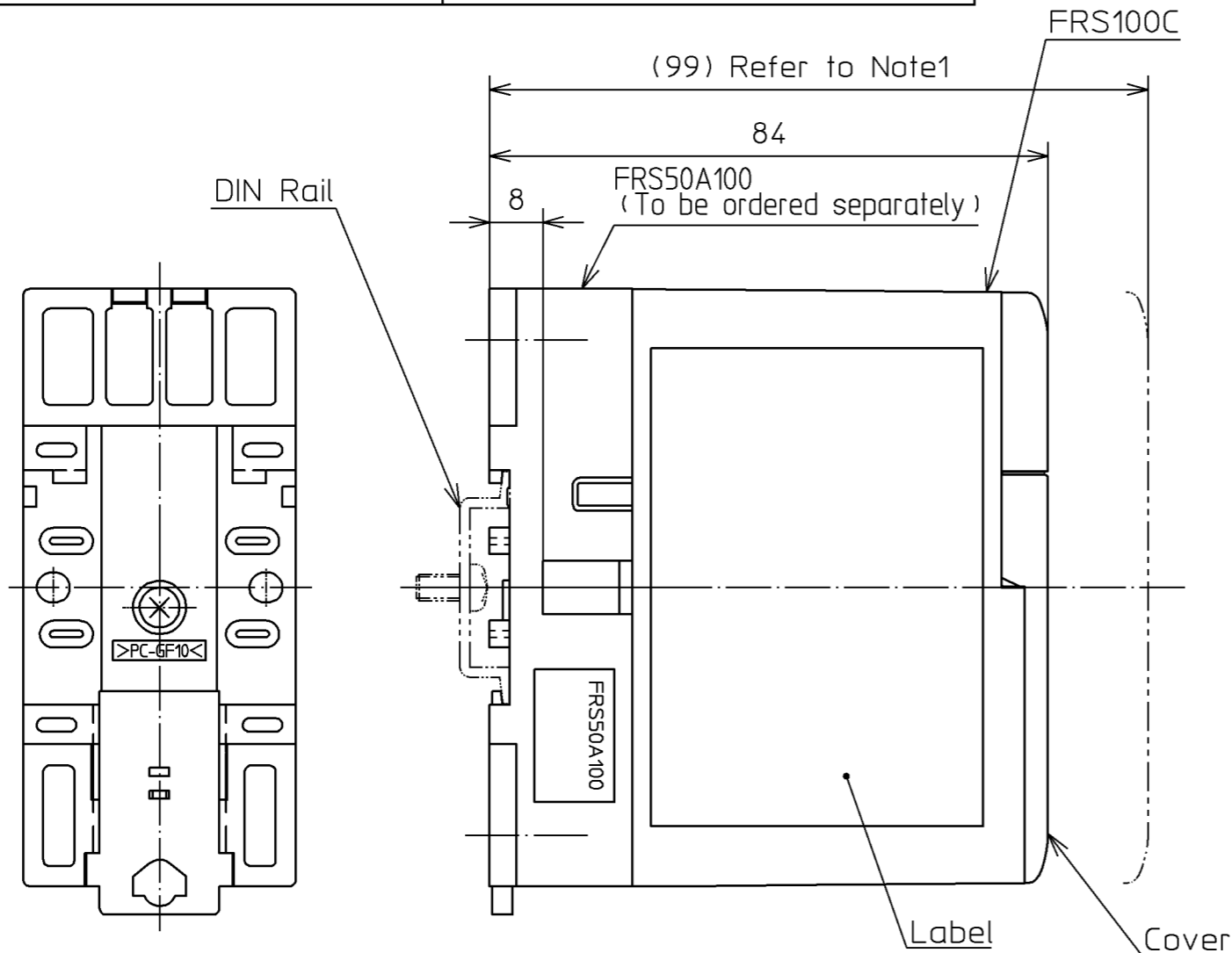
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7. Caution In Use

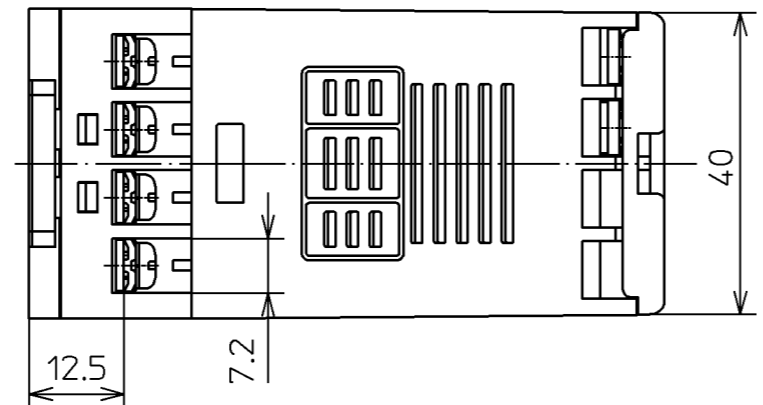
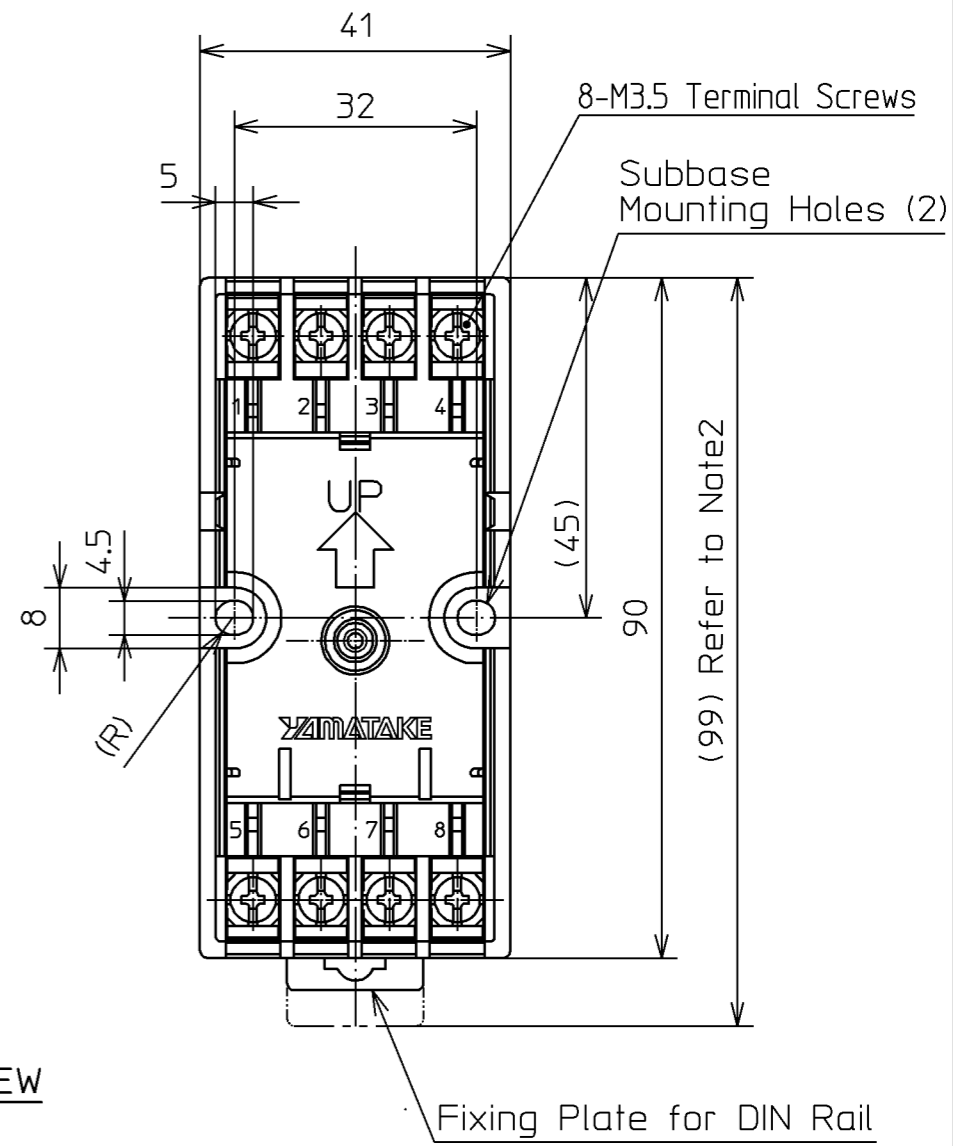
- (1) Disconnect power supply before beginning wiring to terminals to prevent equipment damage or misoperation.
- (2) Check wirings after wiring connection. Miswiring may result in breakdown or misoperation.
- (3) Connect high tension cable of ignition transformer firmly. Contact failure may generate high-frequency wave noise and result in misoperation.
- (4) Power source line and high tension cable of ignition transformer should be wired away from Flame detector leadwires. Especially, high tension cable of ignition transformer must be wired solely and more than 10cm away from Relay Module.
- (5) Do not install this product where,
 - special chemicals or those vapors exist (ammonia, sulfur, chlorine, ethylene compound, acid, etc.)
 - exposed to splash or waterdrop
 - exposed to high temperature
 - vibration continue for a long period
- (6) Do not use this relay by ON/OFF control of power with jumper between start/stop input terminals (1-7). Start check may be skipped.
- (7) When DIN rail mounting is used, remove relays from the subbase and ship them by exclusive container. If shipped as assembled it may damage the products.
- (8) Be sure to provide minimum spacing 3 - (5) for cooling and working space.

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改番 REV.			改番 REV.
			01 / 6/7

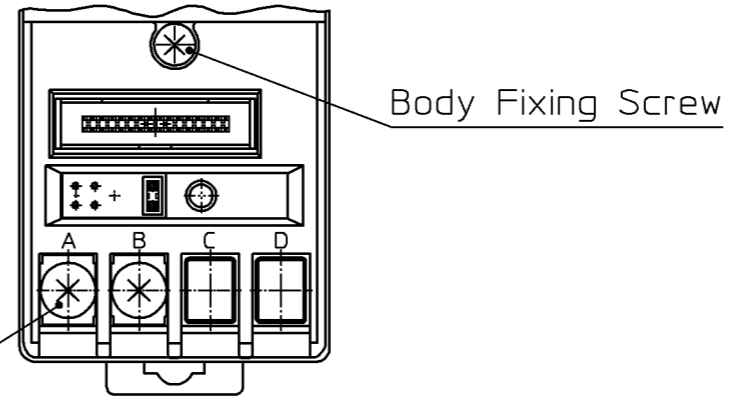
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FRS50A100 (FRONT VIEW WITHOUT RELAY)
Subbase To be ordered separately



COVER REMOVED VIEW



3. This drawing shows FRS100 assembled on FRS50A100.
2. Necessary dimension to release fixing plate.
Note1. Dimension required for mounting or removing the device.

作成DR. S.Miura 7.10.'97	検図CHK. M.Ogido 7.10.'97	認可APPD K.Murata 7.10.'97	日付DATE 8.10.'98	担当 S.Miura	検閲 M.Ogido	尺度SCALE 1:1	記入のない公差 TOL. UNLESS NOTED
形番 MODEL		名称 NAME		図番 NO.		FRS100C Multi Burner Control Flame Relay AD12272E	
01	JE098-0684	8.10.'98	8.10.'98	来歴 RECORD	日付 DATE	改番REV. 01	7/7