

FF-SRS59392

Interface Control Module for Safety Light Curtains

Installation instructions



⚠ WARNING

IMPROPER INSTALLATION

- Consult with US and/or European safety agencies and their requirements when designing a machine control, interface and all control elements that affect safety.
- The FF-SRS59392 interface control module is designed to be used with Honeywell electrosensitive protective equipment using fail-safe solid state outputs. These equipment perform cross-fault detection between their outputs. The FF-SRS59392 module does not perform the cross-fault detection between its inputs. To ensure the highest safety category, do NOT use the FF-SRS59392 with any other equipment. For electrosensitive protective equipment equipped with relay outputs, use the FF-SRS5935 or FF-SRS5925 dual channel emergency stop module, and for the electromechanical safety switches, use the FF-SRD5985 door monitoring module. These three modules perform the cross-fault detection between their inputs.
- Strictly adhere to all installation instructions.

Failure to comply with these instructions could result in death or serious injury.



DIRECTIVES COMPLIANCE

Machine Directive 98/37/EC
Low Voltage Directive 73/23/EC
Electromagnetic Compatibility Directive 89/336/EC

REGULATIONS COMPLIANCE

Regulation	Title
OSHA 29 CFR 1910.212	General Requirements for (guarding of) All Machines
OSHA 29 CFR 1910.217	(Guarding of) Mechanical Power Presses

STANDARDS COMPLIANCE

Standard	Title
EN 292	Safety of Machinery - Basic Concepts, General Principles for Design
EN 60204 - 1	Safety of Machinery - Electrical Equipment of Machines
EN 954 - 1	Safety of Machinery - Safety related parts of control system
EN 61496 - 1	Safety of Machinery- ElectroSensitive Protective Equipment.
UL 508	Underwriters Laboratories
ANSI B11.1	Mechanical Power Presses
ANSI B11.2	Hydraulic Power Presses
ANSI B11.19	Safeguarding when Referenced by the Other B11 Machine Tool Safety Standards
ANSI/RIA R15.06	Safety Requirements for Industrial Robots and Robot Systems

PRODUCT DESCRIPTION

The FF-SRS59392 interface control module is designed to be used in emergency stop circuits when danger to personnel or machinery is present. This device has two internal safety relays with positive-guided contacts to ensure redundancy.

This safety module provides an emergency stop signal to the machine control circuitry. FF-SRS59392 helps to create a control reliable safety solution by providing redundancy and self-checking circuitry. Other features include high current capability, an automatic start and manual start mode and external relays monitoring.

APPROVALS

CE	The product, packaging and documentation of FF-SR Series products is carrying the CE mark .
UL	This product is approved by Underwriters Laboratories Inc. according to Canadian and U.S. safety requirements.

SPECIFICATIONS

Supply Voltage			
Nominal voltage (A1/A2)	24 Vdc (-15 %, +15 %)		
Power consumption	3,5 W		
Fuse protection	315 mA, time delayed (see fig. 8 for location)		
Restart Functions			
Restart push-button input (S33/S34)	for the connection of a NO contact, 0,1 s to 1,5 s closing time, permanent short-circuit detection, 20 Vdc min. voltage (without pressing the push-button), 10 mA/24Vdc min. current, 470 Ω max. cable resistance		
Restart mode input (X1/X3)	for setting the manual or automatic restart mode, voltage presence		
Restart time	100 ms after the ESPE inputs are energized (automatic restart mode) or push-button release (manual restart mode)		
FSD Monitoring Loop			
FSD contacts input (Y1/Y2)	for the connection in series of the FSDs NC contacts (FSDs reaction time : 250 ms), permanent short-circuit detection, 20 Vdc min. voltage, 30 mA/24Vdc min. current , 150 Ω max. cable resistance		
FSD monitoring input (X1/X2)	for setting the FSD monitoring loop, voltage presence		
ESPE inputs			
Input current	30 mA / 24 Vdc (when relays are energized); 5 mA / 24 Vdc (when relays are deenergized)		
Input voltage	19 Vdc to 27,6 Vdc		
Protection	reversed polarity, over-voltages up to 32 Vdc		
Outputs			
Contacts available	2 NO, 1 NC (2 safety relays with guided contacts)		
Response time	15 ms max. (see timing diagrams)		
Start time at power up	100 ms (automatic restart mode)		
Current Range	1 mA min., 6 A max. (see caution)		
Voltage Range	0,1 Vac/dc min., 250 Vac/dc max.		
Switching Capability per ac15 (EN 60947-5-1)	NO contact: 3 A / 230 Vac NC contact: 2A / 230 Vac		
Typical electrical life expectancy on 100 % resistive load (see fig.1, note 3)	1 A	2,000,000 ac	400,000 dc
	3 A	300,000 ac	300,000 dc
	5 A	200,000 ac	200,000 dc
	6 A		150,000 dc
Typical Power Factor /ac voltage (see fig. 2, note 2)	Limitation Factor : 0,45 (cos φ = 0,3), 0,70 (cos φ = 0,5), 0,85 (cos φ = 0,7), 1 (cos φ = 1)		
Operating frequency	1200 switching cycles/h (max.)		
External fuse rating	6 A max. time delayed		
Mechanical life	10 million switching operations		
Environmental Specifications			
Temperature range	Operation : 0 °C to 55°C (32 °F to 131°F) / Storage : -20 °F to 70 °C (-4 °F to 170 °F), at 90 % humidity max.		
Sealing	Housing IP 40; Terminals IP 20 (need to be installed in an IP 54 enclosure)		
Housing material	Thermoplastic		
Vibration resistance	Amplitude 0,35 mm (0.014 in); Frequency 10 Hzto 55 Hz		
Connection	Removable terminal strips, one ø 2,5 mm² (14 AWG) or two ø 1,5 mm² (16 AWG) stranded wires per terminal		
Mounting	Quick install rail mounting EN 50022-35, 35 mm x 15 mm (1.38 x 0.59 in.) size		
Weight	280 g (0.61 lb.)		

NOTE 1: Install arc suppression device across loads to avoid module contact arcing and ensure specified relay life expectancy.

NOTE 2 : Total operations = operations at power factor 1 multiplied by the limitation factor. If the power factor is 0,5 at 230 Vac, 3 A (500,000 operations), the limitation factor is 0,70 and the number of operations is 500,000 x 0.70 = 350,000.

CAUTION

CONTACT DAMAGE

To ensure the 1 mA capability during the lifetime of the contact, **NEVER** exceed 300 mA and 60 V.

Failure to comply with these instructions may result in product damage.

FIG. 1. Contact life for 100 % resistive load / ac voltage (typical) (note 1)

power factor = 1 (cos φ)

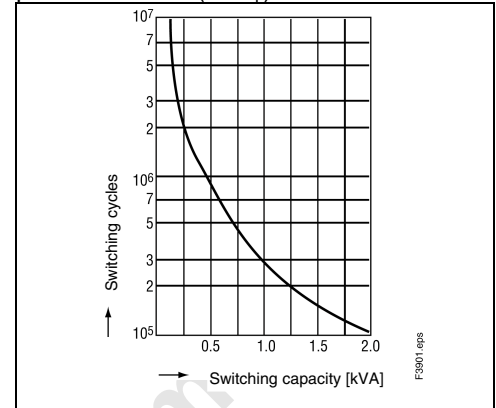


FIG. 2. Limitation factor for inductive loads / ac voltage (note 2)

power factor < 1 (cos φ)

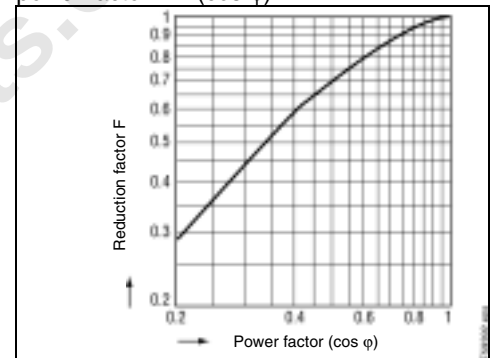


FIG. 3. Contact life for resistive (dc1) or inductive (dc13) loads (note 1) / dc voltage

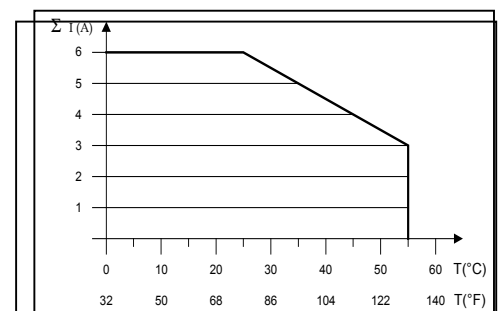


FIG. 4. Total current limit

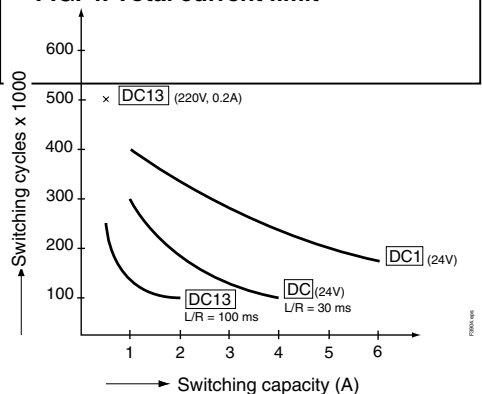


Figure 4. displays the maximal recommended external temperature versus the total load of all the control module contacts. To use this curve, do the following:

- (1) Sum all the current in each contact branch to obtain the vertical axis value.
- (2) Follow the horizontal line from the obtained value and note intersection of the appropriate curve.
- (3) Follow the intersection point down to determine the maximal recommended external temperature.
(Ex: $\sum I = 5 \text{ A}$ current inside safety contacts, then $T = 35^\circ\text{C} / 95^\circ\text{F}$).

If the module is located in a higher temperature environment, the lifetime of the electronic components may be reduced. Ventilation of the cabinet may be required.

MECHANICAL INSTALLATION

The FF-SRS59392 must be installed inside an IP 54 / NEMA 3 rating enclosure or better. The module can be clipped easily onto a 45 mm width EN 50022-35 rail (see figures 5 and 6 for installation and removal). Specific features of this product include removable terminal strips. This feature provides easy access to wiring during installation and reduces machine downtime during maintenance.

FIG. 5. MOUNTING DIMENSIONS (for reference only)

- a Width: 45 mm 1.77 in.
- b Height: 74 mm 2.91 in.
- c depth: 121 mm 4.76 in.

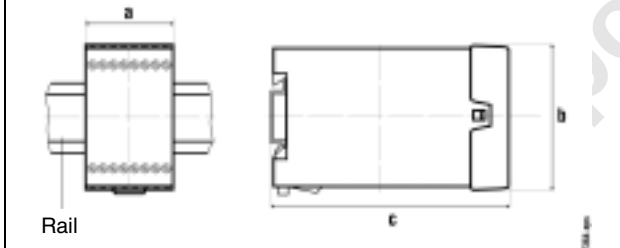


FIG. 6. INSTALLATION DIAGRAM

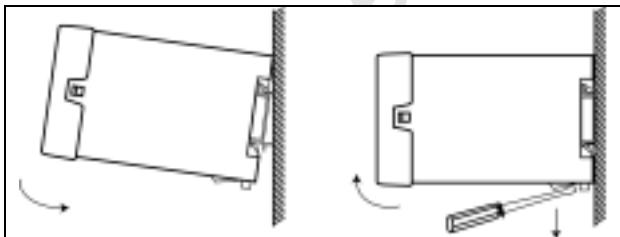


FIG. 7. REMOVABLE COVER PANEL AND TERMINAL BLOCKS

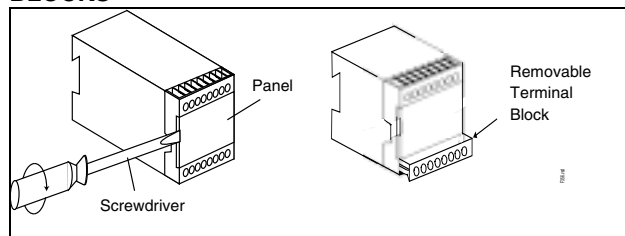
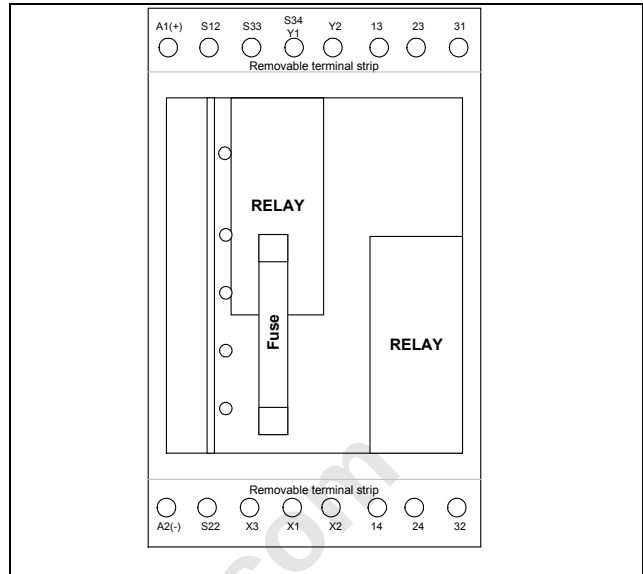


FIG. 8. FUSE LOCATION



REPLACING FUSE

This internal fuse will protect the control module against overvoltage. To replace it, remove the front cover as describe in fig 7. Replace the fuse and install back the protective cover.

EUROPEAN REGULATION

The internal design meets the highest requirements (Category 4 as described in the EN 954-1 European norm). Category 4 control modules are designed and manufactured in such a way that a single breakdown or an accumulation of failures does not lead to the loss of the safety function when a dangerous situation arises. **The safety function is maintained on a permanent basis.**

The FF-SRS59392 control module functions with dual channel redundancy and positive self-checking monitoring. This means that a faulty component in our system will make the safety control module fail in a safe mode.

CONTROL RELIABILITY (US REGULATION)

“Control Reliability” means that “the device, system or interface shall be designed, constructed and installed such that a single component failure within the device, interface or system shall not prevent normal stopping action from taking place but shall prevent a successive machine cycle.” (ANSI B11.19-1990, 5.5)

OSHA 29 CFR 1910.217 states that “the control system shall be constructed so that a failure within the system does not prevent the normal stopping action from being applied to the press when required, but does prevent initiation of a successive stroke until the failure is corrected. The failure shall be detectable by a simple test, or indicated by the control system.”

MODE SETTING

⚠ WARNING

ELECTRICAL SHOCK

Remove power from FF-SR Series control modules and machine during installation and before setup.

Failure to comply with these instructions could result in death or serious injury.

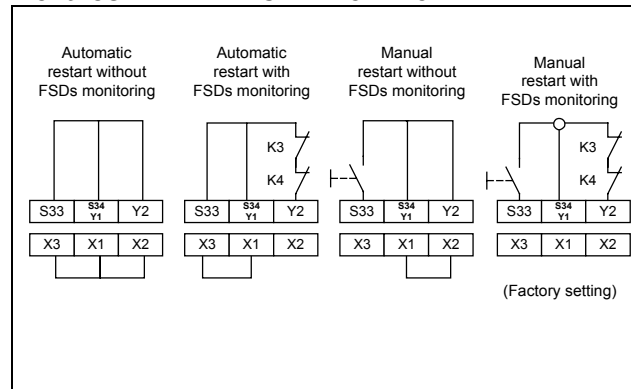
To set the desired mode of operation, some external jumper links may have to be wired on the lower removable terminal block. Refer to the module serigraphy for jumper links setting options (see figure 8). Set jumper links as required.

External jumper links may be set between terminals X1, X2 and X3 to set various modes of operation. This feature ensures application flexibility.

Terminals X1 and X3 are used to select **automatic** or **manual restart**. No jumper link shall be set between terminals X1 and X3 when a push-button is connected between terminals S33 and S34 for the manual restart mode. Jumper links must be wired between terminals S33 and S34 and between terminals X1 and X3 for the automatic restart mode.

Terminals X1 and X2 are used to select or not the FSD monitoring function. Jumper links must be wired between terminals Y1 and Y2 and between terminals X1 and X2 if the FSD monitoring is not required. No jumper link shall be set between terminals X1 and X2 when the FSDs Normally Closed contacts are connected in series between terminals Y1 and Y2 if the FSD monitoring is required.

FIG. 9. JUMPER LINK SETTING DIAGRAM



ELECTRICAL INSTALLATION

Multiple wiring configurations are possible for the FF-SRS59392 interface control module. General guidelines are provided because there are various ways to interface the module to machine control circuitry. **Refer to the important warnings (page 6)** and the application examples (pages 7 through 8).

CAUTION

SAFETY CONTROL MODULE DAMAGE

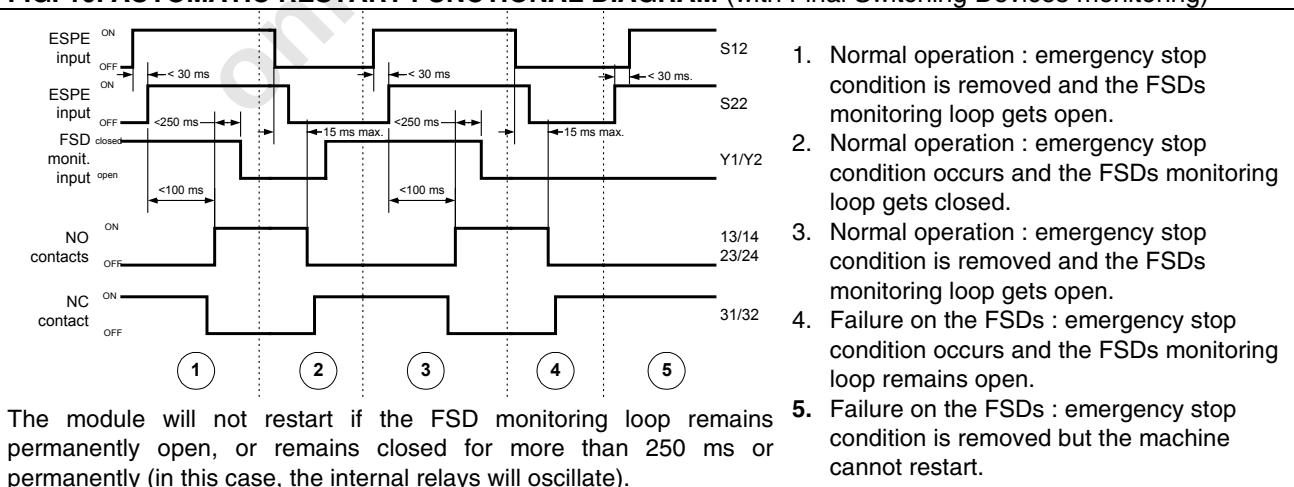
Supply the FF-SRS59392 safety module inputs with the specified input current/voltage (see Specifications table on page 2).

Failure to comply with these instructions may result in product damage.

FUNCTIONAL DESCRIPTION

In the **automatic restart mode**, the Normally Open contacts (13/14, 23/24) will close and the Normally Closed contact (31/32) will open 100 ms after the closing of the 2 Electrosensitive Protective Equipment outputs, provided **these signals are coincident** and the FSDs reaction time is within the specification (if the FSD monitoring loop is set). The ESPE signals are considered to be coincident when both outputs switch on within a 30 ms time frame.

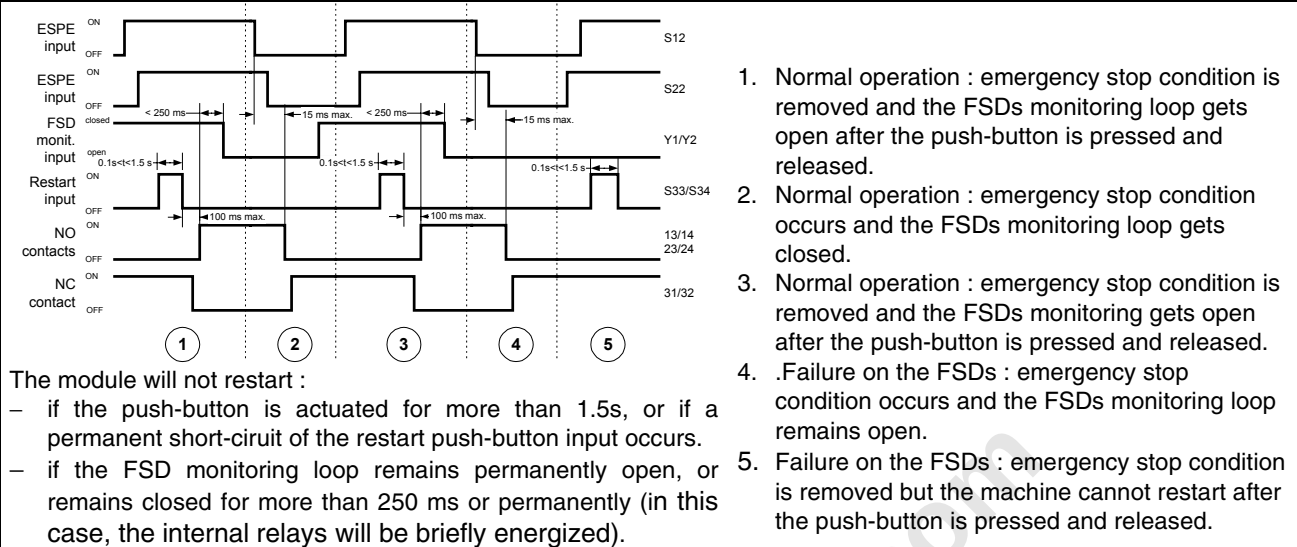
FIG. 10. AUTOMATIC RESTART FUNCTIONAL DIAGRAM (with Final Switching Devices monitoring)



The module will not restart if the FSD monitoring loop remains permanently open, or remains closed for more than 250 ms or permanently (in this case, the internal relays will oscillate).

In the **manual restart mode**, the Normally Open contacts (13/14, 23/24) will close and the Normally Closed contact (31/32) will open 100 ms after releasing the push-button, provided the 2 Electrosensitive Protective Equipment signals are available and the FSDs monitoring loop is closed (if the FSD monitoring loop is set).

FIG. 11. MANUAL RESTART FUNCTIONAL DIAGRAM (with Final Switching Devices monitoring)



MODULE INPUTS S12/S22

The S12 and S22 input signals respectively energize the internal relays K1 and K2. In the automatic restart mode, the module checks that both input signals switch ON simultaneously within a 30 ms time frame. If a permanent short-circuit occurs on one of the module input (S12 for example), the corresponding internal relay (K1) will remain energized whatever happen. As soon as the ESPE is actuated, this failure leads to the immediate stoppage of the machine. This fault condition is cancelled if the input signals switch OFF.

WARNING

IMPROPER USE OF THE RELAY OUTPUT CONTACTS

Always connect 2 contacts out of the 3 contacts delivered by the FF-SRS59392 to the machine control circuitry.

Failure to comply with these instructions could result in death or serious injury.

EXTENSION MODULES AND EXTERNAL CONTACTORS

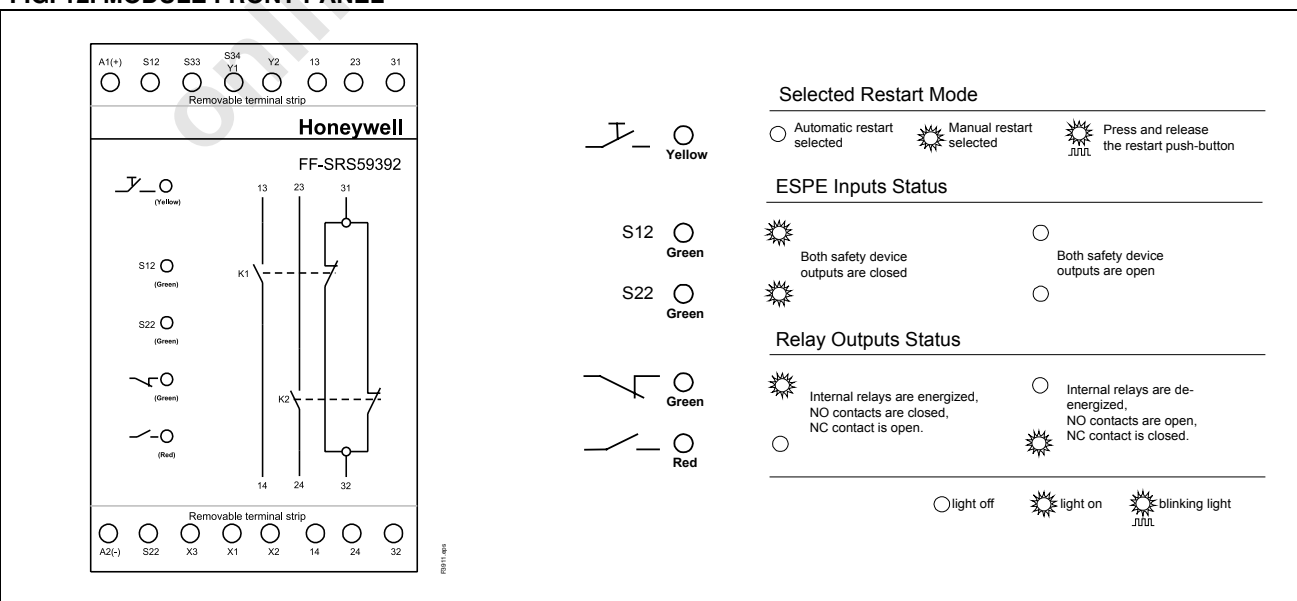
One or more FF-SRE3081 Extension modules or external contactors with positively driven contacts can be used to multiply the number of contacts of the FF-SRS59392 interface control module. If multiple safety contacts are used in parallel with one load, the maximum admissible current can be increased.

For connection of the FF-SRE3081 to the FF-SRS59392 module, see the Installation Instructions for the FF-SRE3081 Extension Module.

LED INDICATORS

The FF-SRS59392 module has five LED status indicators as illustrated below.

FIG. 12. MODULE FRONT PANEL



APPLICATION WARNINGS

⚠ WARNING

IMPROPER INPUT CONNECTIONS

The FF-SRS59392 interface control module is designed to be used with Honeywell electrosensitive protective equipment using fail-safe solid state outputs. These equipment perform cross-fault detection between their outputs. The FF-SRS59392 module does not perform the cross-fault detection between its inputs. To ensure the highest safety category, do NOT use the FF-SRS59392 with any other equipment. For electrosensitive protective equipment equipped with relay outputs, use the FF-SRS5935 or FF-SRS5925 dual channel emergency stop module, and for the electromechanical safety switches, use the FF-SRD5985 door monitoring module. These three modules perform the cross-fault detection between their inputs.

IMPROPER EMERGENCY STOP CONNECTION

To ensure the highest level of safety, connect the two fail-safe solid state outputs of a single safety device onto the two input channels of the FF-SRS59392 safety module.

IMPROPER AUTOMATIC START MODE IN PERIMETER GUARDING APPLICATIONS

If the module is in the automatic start mode, another part of the safety control circuitry must keep the latched function engaged.

IMPROPER PUSH BUTTON USE (MANUAL START MODE)

- To ensure maximum safety when using an external start push button, always design the circuitry for manual start mode (see Mode Setting, page 4).
- Ensure the location of the manual start function is outside of the danger zone and provides the operator with a clear view of the zone.
- For perimeter guarding solutions, the operator should not be able to reach manual start from the danger zone.
- A Programmable Logic Controller (PLC) must NOT be able to override a manual start function.

CONTACT WELDING

Always protect all safety contacts with correctly rated fuses. These fuses must never exceed the rated FF-SRS59392 safety output capability to prevent contact welding.

IMPROPER EXTERNAL SAFETY RELAY MONITORING

- When using additional safety relays or the FF-SRE Extension module, always connect one normally closed contact of each relay in series inside the FSDs monitoring loop circuit (Y1/Y2). This connection will ensure correct operation of the external relays after each FF-SRS59392 activation.
- If the FF-SRS59392 is not activated often, the customer is responsible for accomplishing any additional test procedures of the external safety components. For instance, this testing can be done by using the safety device test input at machine power up every day.

IMPROPER ARC SUPPRESSOR INSTALLATION

- NEVER install an arc suppressor across the safety output contact of the safety control module.
- ALWAYS install arc suppressors across the coils of external safety relays.

IMPROPER SYSTEM SAFETY CATEGORY

- Other safety components with relay outputs can be connected in series with the electrosensitive protective equipment fail safe solid state outputs on both inputs of the FF-SRS59392 control module. Parallel wiring of multiple outputs into a single channel can defeat the channel and cause an unsafe condition.
- A permanent short-circuit of one equipment relay output will be detected after the actuation of the corresponding equipment, but this fault condition may be cancelled by the actuation of a another equipment connected in series. In any case, the above mentioned short-circuit will be detected again after a new actuation of the first equipment (see MODULE INPUTS S12/S22 on page 5). Individually activate and check all of the safety devices connected to a FF-SRS59392 control module to ensure proper operation.

IMPROPER EMERGENCY STOP PUSH BUTTON

The Emergency Stop push button must be designed according to the EN 418 safety standards (or US standard). Under any condition, the Emergency Stop switch must be able to open its contacts when activated.

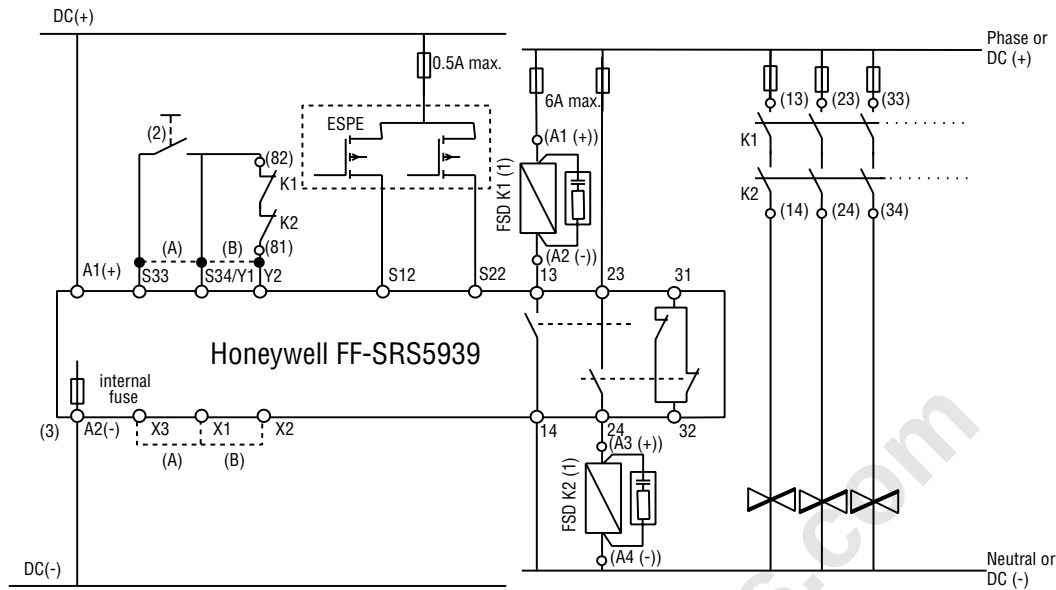
IMPROPER USE OF THE RELAY OUTPUT CONTACTS

Always connect two contacts out of the three contacts delivered by the FF-SRS59392 to the machine control circuitry (see APPLICATION EXAMPLES, page 8).

Failure to comply with these instructions could result in death or serious injury.

APPLICATION EXAMPLES

FIG. 13. WIRING DIAGRAM (USING TWO NORMALLY OPEN CONTACTS)



- (1) : Always install arc suppressors across the coils of external safety relays (these arc suppressors are not necessary, if the FSDs relays K3 & K4 are supplied by the Honeywell FF-SRE3081 extension module for which correct wiring is also indicated in this wiring diagram)
- (2) : Use a 120/230 Vac electrically insulated push-button
- (3) : The module and the ESPE must be connected to the same 0 V
- ESPE : Electrosensitive Protective Equipment
FSD : Final switching Device
- (A) : Jumpered if the manual restart mode is not used
(B) : Jumpered if the FSDs K3 and K4 are not used

Restart sequence:

The safety control module will restart a 100 ms after removing the stop condition, or after releasing the START push button. In the manual restart mode, pressing the START push-button for less than 0.1 s or for more than 1.5 s will not restart the module (permanent short-circuit detection is performed through this input). The green relay outputs status indicator will turn ON indicating that the internal relays are energized. The two normally open safety contacts will close and the normally closed contact will open (this contact can be used for signalling purpose) allowing the machine to operate.

External contactors:

The output contacts switching capacity can be reinforced by using external contactors (K3 and K4) with positive-guided contacts. The proper operation of the external contactors is monitored by looping the NC contacts into the FSDs monitoring loop (terminals Y1/Y2). The module will not restart if the FSD monitoring loop remains permanently open, or remains closed for more than 250 ms after the closing of the module normally open contacts. In this case, the internal relays will be briefly energized.

WARNING

CONTACT REINFORCEMENT VIA EXTERNAL RELAYS

If contact reinforcement via external safety relays (or the FF-SRE3081 Extension module) is necessary, connect one normally closed contact of each relay K3 and K4 in series (or terminals 81/82 for the FF-SRE3081) into the FSD monitoring loop (terminals Y1/Y2).

IMPROPER EXTERNAL SAFETY RELAYS PERFORMANCE

Use two independent stop circuit safety relays with mechanically linked contacts (such as GE CR120 BP Machine Tool Relays or Telemecanique CA3-D relays) to reliably detect a welded contact.

IMPROPER AUTOMATIC START MODE IN PERIMETER GUARDING APPLICATIONS

If the module is in the automatic start mode, another part of the safety control circuitry must keep the latched function engaged.

Failure to comply with these instructions could result in death or serious injury.

FIG. 14. FF-SRS59392 TROUBLESHOOTING FLOW DIAGRAM (SHEET 1)

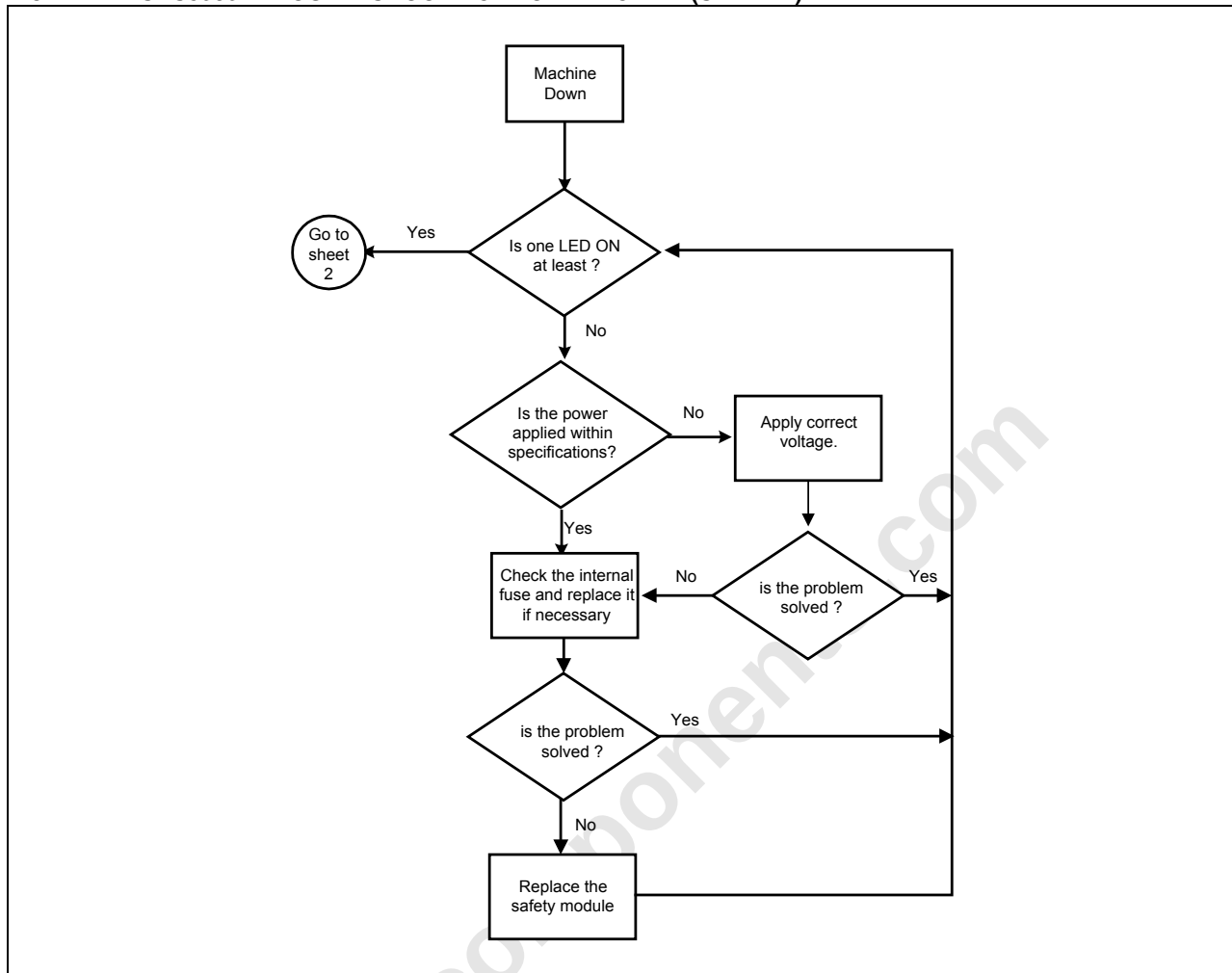


FIG. 15. FF-SRS59392 TROUBLESHOOTING FLOW DIAGRAM (SHEET 2)

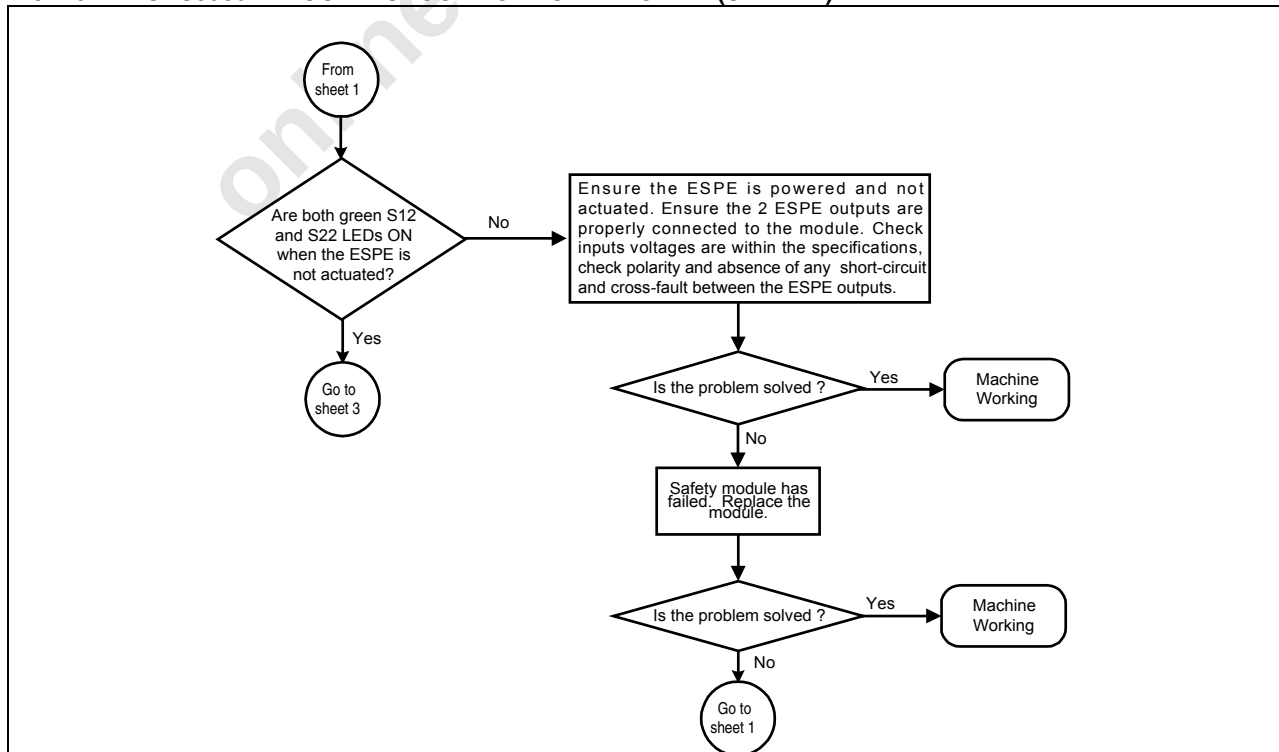


FIG. 16. FF-SRS59392 TROUBLESHOOTING FLOW DIAGRAM (SHEET 3)

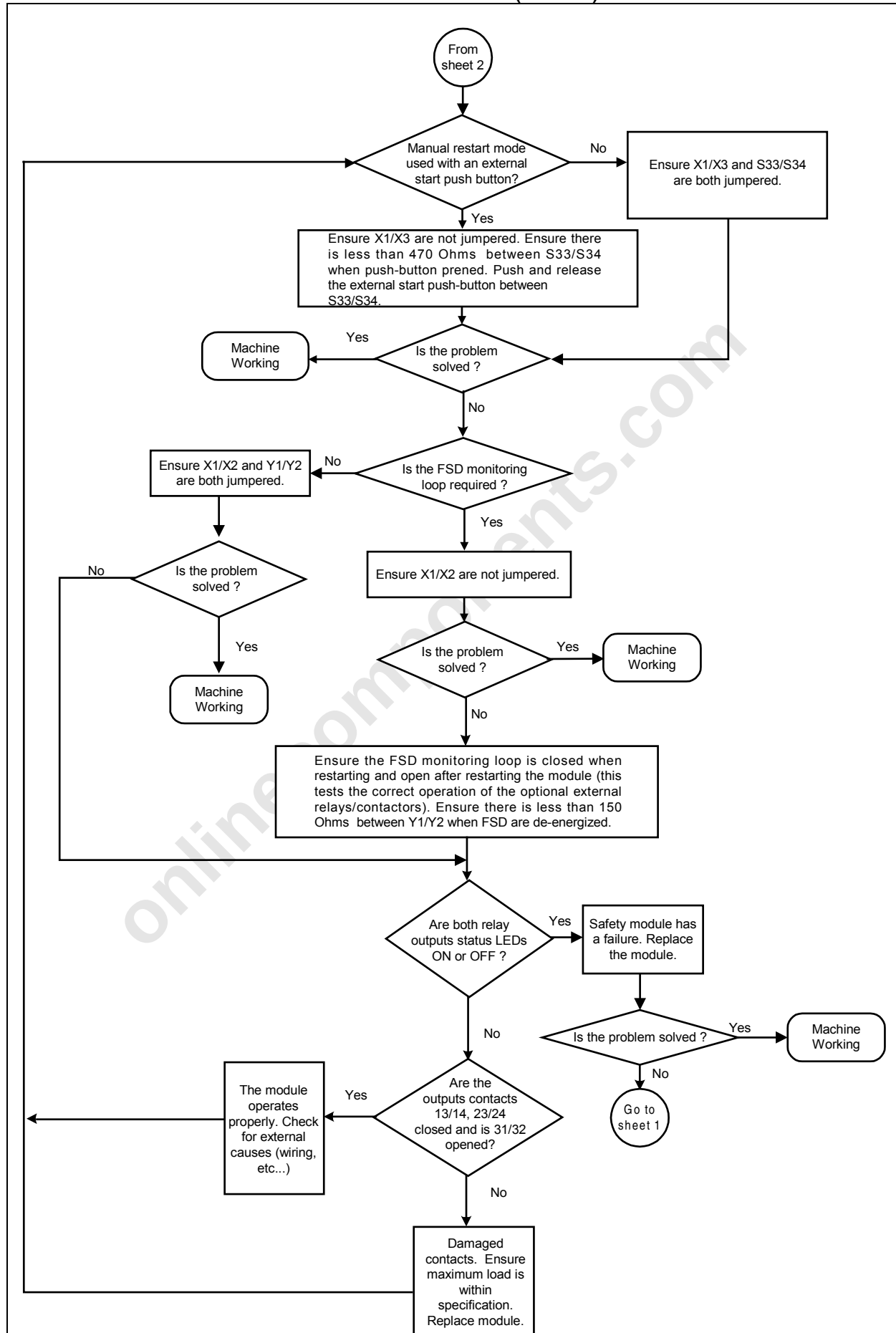


FIG. 17. FF-SRS59392 TROUBLESHOOTING TABLES

AUTOMATIC RESTART MODE

 (YELLOW)	S12 (GREEN)	S22 (GREEN)	 (GREEN) &  (RED)	Output contact status	Comments
					13O—O14 23O—O24 31O—O32 NORMAL OPERATION : DETECTION FIELD IS CLEAR AND MACHINE OPERATION IS ENABLED
					13O—O14 23O—O24 31O—O32 NORMAL OPERATION : DETECTION FIELD IS INTERRUPTED AND MACHINE OPERATION IS DISABLED
					13O—O14 23O—O24 31O—O32 INTERNAL FAILURE ON THE MODULE OUTPUTS OR EXTERNAL SHORT-CIRCUIT ON S12/S22 : DETECTION FIELD IS CLEAR BUT MACHINE OPERATION IS DISABLED
					13O—O14 23O—O24 31O—O32 INTERNAL FAILURE ON THE MODULE OUTPUTS OR EXTERNAL SHORT-CIRCUIT ON S12/S22 : DETECTION FIELD IS CLEAR BUT MACHINE OPERATION IS DISABLED
					13O—O14 23O—O24 31O—O32 FAILURE ON ONE OF THE INPUTS OR ON WIRING : DETECTION FIELD IS CLEAR OR INTERRUPTED AND MACHINE OPERATION IS DISABLED
					13O—O14 23O—O24 31O—O32 FAILURE ON ONE OF THE INPUTS OR ON WIRING : DETECTION FIELD IS CLEAR OR INTERRUPTED AND MACHINE OPERATION IS DISABLED
					13O—O14 23O—O24 31O—O32 WITHOUT FSD MONITORING : ABSENCE OF THE JUMPER LINK BETWEEN TERMINALS Y1 AND Y2 : DETECTION FIELD IS CLEAR BUT MACHINE OPERATION IS DISABLED WITH FSD MONITORING : A FAILURE OF ONE OF THE FSDs OPENS THE FSDs MONITORING LOOP, OR PERMANENT SHORT CIRCUIT BETWEEN Y1 AND Y2 (RELAYS OSCILLATE)
					13O—O14 23O—O24 31O—O32 NO CONNECTION BETWEEN TERMINALS S34 AND S33 : DETECTION FIELD IS CLEAR BUT MACHINE OPERATION IS DISABLED

 LIGHT OFF  LIGHT ON  BLINKING LIGHT

MANUAL RESTART MODE

 (YELLOW)	S12 (GREEN)	S22 (GREEN)	 (GREEN) &  (RED)	Output contact status	Comments
					13O—O14 23O—O24 31O—O32 NORMAL OPERATION : DETECTION FIELD IS CLEAR AND MACHINE OPERATION IS ENABLED
					13O—O14 23O—O24 31O—O32 NORMAL OPERATION : DETECTION FIELD IS INTERRUPTED AND MACHINE OPERATION IS DISABLED
					13O—O14 23O—O24 31O—O32 INTERNAL FAILURE ON THE MODULE OUTPUTS : DETECTION FIELD IS CLEAR BUT MACHINE OPERATION IS DISABLED OR EXTERNAL SHORT-CIRCUIT ON S12/S22
					13O—O14 23O—O24 31O—O32 INTERNAL FAILURE ON THE MODULE OUTPUTS : DETECTION FIELD IS CLEAR BUT MACHINE OPERATION IS DISABLED OR EXTERNAL SHORT-CIRCUIT ON S12/S22
					13O—O14 23O—O24 31O—O32 FAILURE ON ONE OF THE INPUTS OR ON WIRING : DETECTION FIELD IS CLEAR OR INTERRUPTED AND MACHINE OPERATION IS DISABLED
					13O—O14 23O—O24 31O—O32 FAILURE ON ONE OF THE INPUTS OR ON WIRING : DETECTION FIELD IS CLEAR OR INTERRUPTED AND MACHINE OPERATION IS DISABLED
					13O—O14 23O—O24 31O—O32 WITHOUT FSD MONITORING : RESTART PUSH-BUTTON MUST BE PRESSED. IF NO RESULT, THEN FAILURE ON THE RESTART PUSH-BUTTON INPUT, OR ABSENCE OF THE JUMPER LINK BETWEEN TERMINALS Y1 AND Y2 : DETECTION FIELD IS CLEAR BUT MACHINE OPERATION IS DISABLED WITH FSD MONITORING : RESTART P/B MUST BE PRESSED. IF NO RESULT, THEN FAILURE ON THE RESTART PUSH-BUTTON INPUT, OR FAILURE ON ONE OF THE FSDs DETECTED THROUGH THE FSDs MONITORING LOOP

 LIGHT OFF  LIGHT ON  BLINKING LIGHT

WARRANTY AND REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

While we provide application assistance, personally through our literature, it is up to the customer to determine the suitability of the product in the application. Specifications may change at any time without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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(34) 91 313 61 29	Spain
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ORDER GUIDE

FF-SRS59392 (24 Vdc)

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HONEYWELL - EUROPEAN PHOTOELECTRIC CENTER QUALITY ASSURANCE DEPARTMENT		
CE declaration of conformity		
We :	Honeywell/Conesta ZIRST B.P. 83 21, chemin du Vieux Chêne 38243 Meylan Cedex - France	
Declare :	under our sole responsibility that the protective equipment catalogued: <i>Interface control module FF-SRS5939 Series</i> to which this declaration relates is in conformity with the technical requirements of the standards and the provisions of the essential requirements of the Directives detailed below.	
Directives :	• Machine Directive 90/27 EEC • Low Voltage Directive 73/23 EEC • Electromagnetic Compatibility Directive 89/336 EEC	
Standards :	EN 954-1 : Safety of Machinery - Safety related parts of control systems - part 1 : General principles for design.	
Safety category :	category 4 as per EN 954-1	
Legal Representative in Europe :	Place of issue : Meylan Quality Manager : Patrick Gaud Signature :	Date: 15/12/98 General Manager: Lionel Heitz Signature :

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Certificate No. CC1816-025033