APPROVAL REPORT

Project No:	0003054712
Supplements Project No.:	
Class:	3545
Product Name:	Temperature Controller Series 650 and 1250
Product Type:	Temperature Limit Controllers
Name of Listing Company:	Gefran Spa
Address of Listing Company:	Via Sebina, 74 Provaglio, d'Iseo (BS) 25050 Italy
Customer ID:	148244-1
Customer website	www.gefran.com

Prepared by

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Reviewed by

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Manager of Electrical Systems

6 October 2015

Date of Approval

FM Approvals
1151 Boston-Providence Turnpike
PO Box 9102
Norwood, MA 02062

1 INTRODUCTION

1.1 Gefran Spa requested Approval of the Temperature Limit Switches Model 650 and 1250 listed in Section 1.4 for compliance with the standards listed in Section 1.3 as suitable for the listing categories described in Section 1.4.

1.2 This report may be freely reproduced only in its entirety and without modification.

1.3 Standards

1.3.1 United States Standards

Title	Number	Issue Date
Temperature Limit and supervisory Switches	3545	1998

1.4 Listing

The product will be updated in the Approval Guide, an on-line resource of FM Approvals, as follows with all changes highlighted, deletions shown with strikethroughs and additions in red text:

1.4.1 US Listings

Fuel & Combustion Controls ⊡Temperature Limit Switches ⊡Temperature Limit Switches --Indicating

Model No. 650, 1250

Temperature limit switches Model No. 650, 1250
Operating Voltage 20…27Vac/dc or 100…240Vac/dc, Alarm Relays rated 5 A at 250 VAC

2 DESCRIPTION

The 650 and 1250 controllers are a family of devices designed to control temperature in industrial processes and to manage the positioning (without feedback) of motorized valves. The devices have the same main characteristics and the same range of functions. They differ in size (1/16, 1/8 and ¼ DIN), the amount of information shown on the display, and the maximum number of digital inputs. The displays show the process and set point values, plus multilingual scrolling messages for diagnostics, alarms and process state. A segmented bar graph shows percentages of power, delivered current or valve position. Configuration/local operation is done with keys to which dual-function LEDs are associated: feedback for pressed key and guide for permitted operations.

3 EXAMINATIONS AND TESTS

3.1 Examination

Samples were submitted for examination and testing. The samples were considered to be representative of the product line and were examined, tested, and compared to the manufacturer's drawings. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.

All testing and analysis considered appropriate was conducted and verified to be in compliance with the Standards defined in Section 1.3.

4 MARKING

4.1 Product shall be provided with warning labels.

5 REMARKS

5.1 Extreme care should be taken with the installation of this equipment. The latest edition of the manufacturer’s instruction manual must be followed completely, and any problems should be resolved by consultation with the factory or the authorized representative.

5.2 All installation wiring shall be in accordance with the appropriate national electrical code.

5.3 An Approval examination of equipment such as this can only evaluate typical configurations. Although those components identified in this report have been tested, it is beyond the scope of such an examination to test all possible configurations. It is therefore necessary, that those responsible for the setup and acceptance of specific installations take special care to verify that the equipment, including programmable functions, is configured to operate properly for the required performance of that installation.

5.4 Tampering and replacement with non-factory components may adversely affect the safe use of the system.

6 SURVEILLANCE AUDIT

The design and manufacturing facilities at the following location(s) shall be visited on a routine basis. The facility processes and quality control procedures in place have been determined to be satisfactory to manufacture product identical to that tested and Approved. An FM Approved Products/Specification-Tested Revision Request Form shall be submitted to FM Approvals for requesting to manufacture product at any additional or alternate manufacturing facilities which are not listed below.

Design
Gefran Spa
Via Sebina, 74
Provaglio, d'Iseo (BS) 25050
Italy

Manufacturing
Gefran Spa
Via Sebina, 74
Provaglio, d'Iseo (BS) 25050
Italy

7 MANUFACTURER'S RESPONSIBILITIES

7.1 Documentation that is applicable to this approval is on file at FM Approvals and listed in the Documentation File, Section 8, of this report. No changes of any nature shall be made unless notice of the proposed change has been given and written authorization obtained from FM Approvals. The FM Approved Products/Specification-Tested Revision Request Form shall be forwarded to FM Approvals as notice of proposed changes.

7.2 The Manufacturer is responsible for control of the product marking and installation instructions for the System.

7.3 The manufacturer shall provide installation, operating, and maintenance manual[s] with each system.

7.4 In accordance with the Master Agreement, the manufacturer shall make full and immediate disclosure to FM Approvals of all information concerning any defect in, or potential hazard of, the product or service manufactured or provided by the Customer which is Approved by, or being examined by, FM Approvals. The manufacturer shall make all necessary arrangements for the investigation of complaints / anomalies applicable to this approval and shall keep records of all complaints / anomalies including actions taken.

8 DOCUMENTATION

See attached blueprint report.

9 CONCLUSION

The temperature controllers described in section 1.4.1 meet FM Approvals requirements. Since a duly signed Master Agreement is on file for this manufacturer, Approval is effective the date of this report.

PROJECT DATA RECORD: 0003054712

ATTACHMENTS: Blueprint Report 3054712

Blueprint Report

Gefran SpA (148244)

Class No 3545

Original Project I.D. 3054712

Drawing No.	Revision Level	Drawing Title	Last Report	Electronic Drawing
80208B	03-2015	Installation Instructions, 650 & 1250	3054712	Yes (pdf)
80426	A	Quick Guide 650	3054712	Yes (pdf)
80429	A	Quick Guide 1250	3054712	Yes (pdf)
DIS-00350	03	Label Drawing 650	3054712	Yes (pdf)
DIS-00352	03	Label Drawing 1250	3054712	Yes (pdf)
PMS-00043-06	6	4200031 Scheda Display &CPU	3054712	Yes (pdf)
PMS-00044-08	8	4201011 Scheda Input 650 454213 Out1 D	3054712	Yes (pdf)
PMS-00046-02	2	4203000 Piastra SMD W + 3DI 650	3054712	Yes (pdf)
PMS-00055-04	4	4210071 Scheda Display & CPU 650-1650	3054712	Yes (pdf)
PMS-00057-07	7	4212071 Scheda Input & Power HV 1250-1850	3054712	Yes (pdf)
PMS-00058-04	4	4213050 Scheda Option 1250-1350	3054712	Yes (pdf)
PMS-00059-03	3	4214021 Scheda Output 1250-1350	3054712	Yes (pdf)
PMS-00065-01	1	4206000 Piastra C.ST. Flex	3054712	Yes (pdf)
PMS-00069-02	2	Piastra SMD & PTH Out2, 3 4R Pwr HV 650	3054712	Yes (pdf)
SCH-00041-05	5	CPU & Display Strumenti 650-850	3054712	Yes (pdf)
SCH-00042-08	8	Scheda Input 650	3054712	Yes (pdf)
SCH-00044-02	2	Opzionale 3DI & W & RS485 650	3054712	Yes (pdf)
SCH-00053-05	5	CPU & Display Strumenti 1250	3054712	Yes (pdf)
SCH-00055-07	7	Scheda Input & Power HV 1250	3054712	Yes (pdf)
SCH-00056-04	4	Scheda Option 1250 Ongresso Setpoint Remoto	3054712	Yes (pdf)
SCH-00057-03	3	Scheda Output 1250 USCITA Digitale	3054712	Yes (pdf)
SCH-00063-01	1	Tastiera Flessibile 650-1250	3054712	Yes (pdf)
SCH-00069-02	2	Power 90-260 650 3R	3054712	Yes (pdf)