**Alarm system for elevators
compliant with the European Standard
EN 81-28:2018**
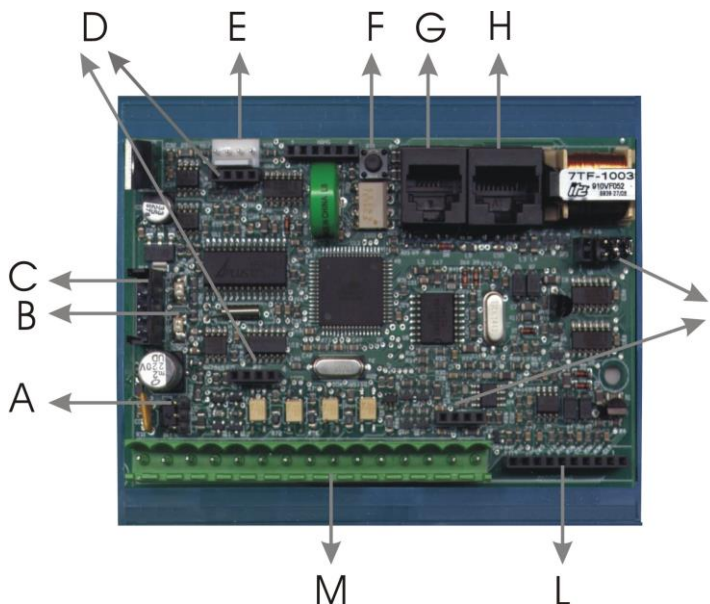
ST56 INTL

QUICK GUIDE

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DESCRIPTION

Picture 1

A   Jumper JP8 for define the behaviour of alarm inputs AL1 and AL2

B   LEDs signalling device status (red) and GSM200-C signal strength (green)

C   Connector for Esse-ti power supply (12 Vdc)

D   Connectors for optional relay board

E   Serial plug for connection to elevator CPU

F   Reset pushbutton

G   RJ11 connector for local telephone

H   RJ45 connector for GSM200-C module

I   Connectors for optional PSTN-line board

L   Connector for FlashKey

M   Terminal blocks

Terminal blocks

BATT	12 Vdc power supply input
AR	Received alarm indicator light
AI	Given alarm indicator light
+12	Output 12 Vdc (max. 100 mA)
AL1	Alarm input 1
AL2	Alarm input 2
COM	Common terminal for inputs IN1 and IN2
IN1	Alarm filter input
IN2	Gong input or auxiliary alarm input
VV2+	Output speaker unit 2
VV2-	Common speaker unit 2
VV1+	Output speaker unit 1
VV1-	Common speaker unit 1
TEL	Local Telephone

Optional PSTN-line board

LTI	PSTN-line or universal gateway input
⏚	Ground terminal

Optional relay board

RL1	Relay contact 1
RL2	Relay contact 2

Jumper JP8 for inputs AL1 and AL2

The jumper JP8 (A in picture 1) defines the behaviour of the inputs AL1 and AL2.

The inputs AL1 and AL2 are at +12V; the alarm occurs when they are closed to a – terminal (e.g. VV2-).

The inputs AL1 and AL2 are at 0V; the alarm occurs when they are closed to +12V.
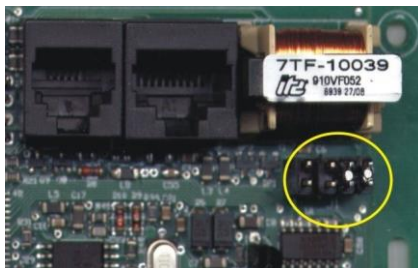
CONNECTING THE TELEPHONE LINE

The alarm system is ready for connection to the GSM200-C module.

It allows the connection of a PSTN line or a universal gateway (2G/3G/4G) with the optional PSTN-line board.

GSM200-C module connection

- Make sure the jumpers are present in the dedicated connector for the PSTN-line board, by observing the positioning below:

Picture 2

- Connect the RJ45 connector (H in picture 1) to the GSM200-C module by means of the supplied cable.

PSTN line or universal gateway (2G/3G/4G)

- Remove the jumpers set in the dedicated connector for the PSTN-line board (s. picture 2).
- Insert the optional board in the dedicated connectors (I in picture 1).
- Connect the PSTN line to the LTI terminal blocks placed on the optional board.
- Connect the ground terminal (indicated by ⊕), placed on the optional board, to a ground socket in order to increase the telephone line protection.

> *Remark: it is recommended to keep the jumpers removed in order to use them again in case you should wish to get back to the GSM200-C line. It is possible to place them on the connector located on the optional PSTN-line board.*

CORRECT OPERATION CHECKLIST

1. PROGRAMMING

➤ Access to programming: lift the local telephone handset and dial ✱ ⓪ #.

You will hear the dialling tone (one longer tone followed by a shorter tone).

➤ Program the telephone line type:
dial ⑥⑥① for GSM200-C module or ⑥⑥⓪ for PSTN line or universal gateways (2G/3G/4G).

➤ Program a telephone number for the emergency-call alarm:
dial ②①⓪①①② <telephone number> #.

➤ Record the identification message of the specific elevator (max. 22 seconds), which is meant to contain all necessary information concerning the elevator location: dial ⑦①⓪①, pronounce the message and hang up.

➤ To listen again to the previous message, lift the local telephone handset and dial: ⑦②⓪①.

➤ Make an external call to check the telephone line presence: dial ⓪ and digit the telephone number to make a test call.

2. ALARM PROCEDURE CHECK

➤ Press the emergency button.

The emergency call will be made.

3. ANSWERING AN ALARM

-1ˢᵗ mode: handsfree connection by "Handsfree activation" code (factory default)

➤ Answer by the called party.

The voice messages will be heard.

➤ Press ⓪ to speak with the trapped person.

-2ⁿᵈ mode: automatic handsfree connection

➤ Answer by the called party.

➤ Speak with the trapped person.

> *Remark: you can choose the 1ˢᵗ or the 2ⁿᵈ mode with the "Handsfree connection mode" programming (code 78).*

4. RESETTING AN ALARM

-1nd mode: reset by "End" code (factory default)

➢ Press ⑨ to end the alarm.
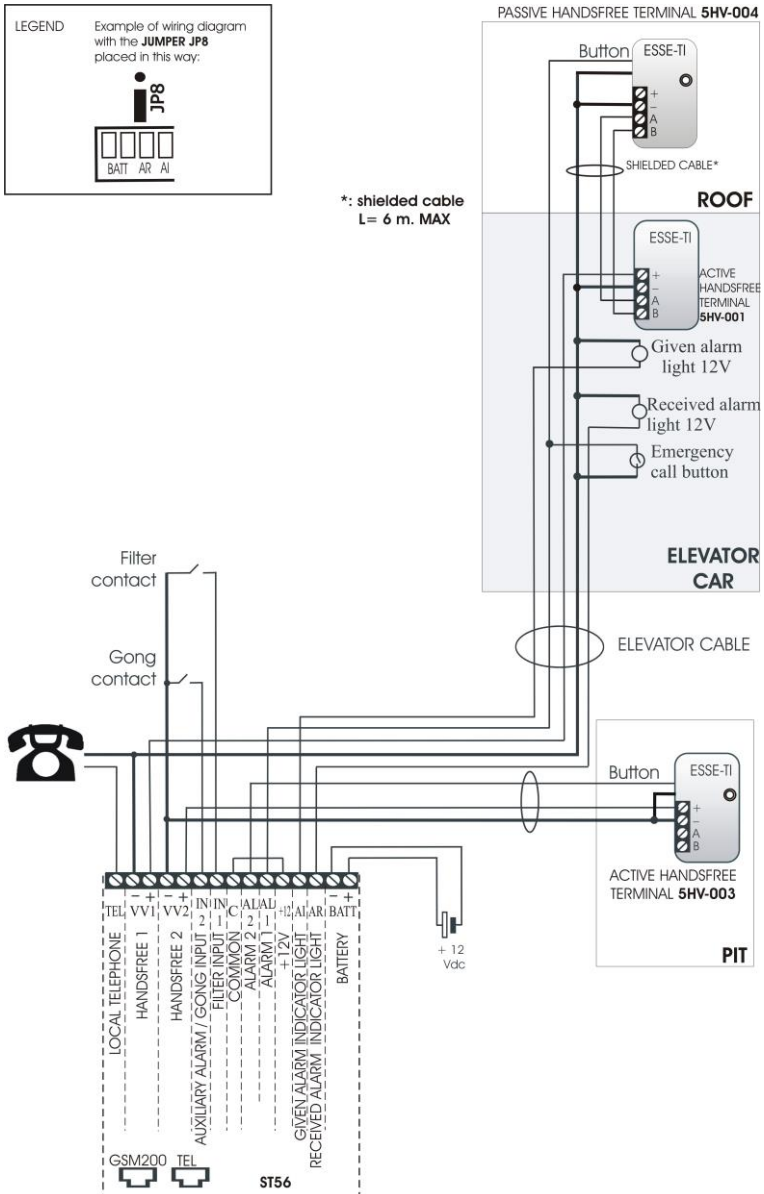
-2st mode: automatic reset

➢ Hang up or press ⑨ to end the alarm.

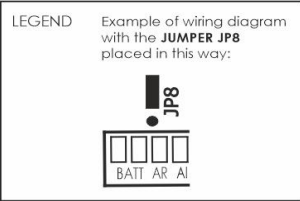> *Remark: you can choose the 1st or the 2nd mode with the "Alarm reset mode" programming (code 77).*

In case it should not be possible to stop the alarm procedure remotely (i.e. the entered telephone number is incorrect) simply lift the handset of the local telephone and dial * <Password> # (by factory default: ✳ ⓪ ⌗.

WIRING DIAGRAMS

Example connection

WIRING DIAGRAMS

Example connection

LEGEND   Example of wiring diagram with the **JUMPER JP8** placed in this way:

JP8

BATT AR AI

*: shielded cable
L= 6 m. MAX

PASSIVE HANDSFREE TERMINAL **5HV-004**

Button   ESSE-TI
+
–
A
B

SHIELDED CABLE*

ROOF

ESSE-TI
+
–
A
B

ACTIVE HANDSFREE TERMINAL **5HV-001**

Given alarm light 12V

Received alarm light 12V

Emergency call button

ELEVATOR CAR

ELEVATOR CABLE

Gong Filter contact

Button   ESSE-TI
+
–
A
B

ACTIVE HANDSFREE TERMINAL **5HV-003**

PIT

+ 12 Vdc

TEL VV1 VV2 IN 2 IN 1 C AL 2 AL 1 +12V AI AR BATT

LOCAL TELEPHONE
HANDSFREE 1
HANDSFREE 2
AUXILIARY ALARM / GONG INPUT
FILTER INPUT
COMMON
ALARM 2
ALARM 1
+12V
GIVEN ALARM INDICATOR LIGHT
RECEIVED ALARM INDICATOR LIGHT
BATTERY

GSM TEL

ST56

PROGRAMMING

In the tables below:
- **INST** indicates that the programming procedure is allowed for the installer;
- **OPER** indicates that the programming procedure is allowed for the operator;
- factory default values are highlighted in bold.

Basic programming

BASIC PROGRAMMING					
ACCESS TO PROGRAMMING	⊠<INSTALLER or OPERATOR PASSWORD> ⊞ (by default: ⊠ 0 ⊞)				
EXITING THE PROGRAMMING	⊠<INSTALLER or OPERATOR PASSWORD> ⊞ (by default: ⊠ 0 ⊞)				
TYPE OF TELEPHONE LINE (INST)	6 6	0 **PSTN line or universal gateway (2G/3G/4G)** (with optional board)			
		1 GSM200-C module			
			SOURCE	RECEIVER	
			1 emergency-call button	1 ADEMCO	
			2 technological / diagnostics alarm	2 USER	
TELEPHONE NUMBERS (INST)	2 1	⊠ ⊠ (position from 01 to 12)	3 periodic test call	3 ESSE-TI	⊠...⊠ ⊞ (X…X = telephone number, max. 20 digits; * = 2 sec-pause)
			-	4 CLI	
			7 alarm sent alert notification	5 SMS (only with GSM200-C)	
			8 alarm terminated alert notification	6 P100	
DELETING TELEPHONE NUMBER (INST)	2 1	⊠ ⊠ (position from 01 to 12)	1 2 ⊞		

BASIC PROGRAMMING		
HANDSFREE CONNECTION MODE (INST)	⑦⑧	⓪ **handsfree activation by "Handsfree activation" code**
		① automatic handsfree activation
ALARM RESET MODE (INST)	⑦⑦	⓪ automatic reset
		① **alarm reset by "End" code**

DATE (INST)	③⑥	weekday	$XX_{(dd)}$ $XX_{(mm)}$ $XX_{(yy)}$
		⓪ SUNDAY	
		① MONDAY	
		② TUESDAY	
		③ WEDNESDAY	
		④ THURSDAY	
		⑤ FRIDAY	
		⑥ SATURDAY	

TIME (INST)	③⑤	$XXXX$ (hhmm; from 0000 to 2359)		
RECORD MESSAGES (INST)	⑦①	⓪① identification message (max. 22 sec.)	(beep)	record
		⓪② courtesy message (max. 22 sec.)		
LISTEN TO MESSAGES (INST/OPER)	⑦②	⓪① identification message	(listen)	
		⓪② courtesy message		
INSTALLATION TYPE (INST)	⑥③	① **1 active speaker unit**		
		② 2 active speaker unit		
DEAD BATTERY ALARM (INST)	⑤②	⓪ **disabled alarm**		
		① enabled alarm		
NO MAINS POWER SUPPLY ALARM (INST)	⑤①	⓪⓪ **disabled alarm**		
		XX from 01 to 99 = enabled alarm with XX minutes delay		
DIAGNOSTICS ALARM (INST/OPER)	⑤④	⓪ **disabled alarm**		
		① enabled alarm		

BASIC PROGRAMMING

BASIC PROGRAMMING				
ADEMCO / P100 PROTOCOL ID (INST)	②②①		max. 10-digits ID: Ⓧ ... Ⓧ	[⊞]
ESSE-TI / P100 PROTOCOL ID (INST)	②②②		10-digits ID: ⓍⓍⓍⓍⓍⓍⓍⓍⓍⓍ	
AUTOMATIC TEST DATA (INST)	Frequency	③①	Ⓧ (days, from 1 to 9; factory default **3**)	
	Time	③②	ⓍⓍⓍⓍ (hhmm; from 0000 to 2359)	
	Automatic test alarm	③④	⓪ **automatic test disabled**	
			① automatic test enabled (EN 81-28:2018)	
			③ automatic test enabled (EN 81-28:2004)	
	Make a test call manually		③④②	
SPEAKER UNIT VOLUMES (INST/OPER)	⑧⓪	① SPEAKER UNIT 1	①~④⊞ (loudspeaker's volume; factory default **3**)	
		② SPEAKER UNIT 2	⑧~⑨⊞ (microphone's sensitivity; factory default **8**)	
MESSAGES VOLUMES (INST/OPER)	⑧⓪	④ MESSAGES	①...④⊞ (volume; message factory default **2**; gong factory default **1**)	
		⑤ DAY GONG		
		⑥ NIGHT GONG		
LISTENING TO PROGRAMMING	Ⓧ...Ⓧ (prefix programming code) ✳			
RESTORING FACTORY DEFAULT (INST)	⑨⑨			

Advanced programming

ADVANCED PROGRAMMING			
CHANGING THE INSTALLER PASSWORD "0" (INST)	⑨①	Ⓧ...Ⓧ(old) ✳	Ⓧ..Ⓧ(new) ✳✳ Ⓧ..Ⓧ(new) ✳
CHANGING THE OPERATOR PASSWORD "0" (INST)	⑨②	Ⓧ...Ⓧ(old) ✳	Ⓧ..Ⓧ(new) ✳✳ Ⓧ..Ⓧ(new) ✳

ADVANCED PROGRAMMING		
LANGUAGE (INST)	7 9	0 0 **Italian**
		0 1 English
		0 2 German
		0 3 French
		0 4 Polish
		0 5 Portuguese
		0 7 Spanish
		1 2 Flemish
TONE DECODER SETTING (INST)	6 7	0 **Italy / Switzerland / Portugal / Poland / Bulgaria**
		1 England
		2 Israel
		3 Greece
		4 Austria (digital)
		5 Germany
		6 France
		7 Australia
		8 Russia / Hungary
		9 Netherlands / Croatia
EMERGENCY BUTTONS NORMALLY OPEN/CLOSED (INST)	4 1	0 closed
		1 **open**
EMERGENCY BUTTON DELAY (INST)	4 2	X (seconds, from 0 to 9; factory default **2**)
IN2 INPUT MODE (INST)	5 6	1 auxiliary alarm input
		2 **gong input**
AUXILIARY ALARM (INST)	5 5	0 **disabled**
		1 enabled

ADVANCED PROGRAMMING			
FILTER ACTIVATION (INST/OPER)	5 3	⓪ **disabled**	
		① enabled (bypass after 10 s)	
		② enabled (bypass after 15 s)	
		③ enabled (bypass after 20 s)	
		④ enabled (bypass after 25 s)	
		⑥ enabled (bypass after 30 s)	
FILTER INPUT NC/NO (INST/OPER)	4 8	⓪ normally closed	
		① **normally open**	
"ACKNOWLED-GE" CODE (INST)	4 7	⊠...⊠ (from 1 to 3 digits; factory default **5**)	[⊞]
"HANDSFREE ACTIVATION" CODE (INST)	4 5	⊠...⊠ (from 1 to 3 digits; factory default **0**)	[⊞]
"END" CODE (INST)	4 3	⊠...⊠ (from 1 to 3 digits; factory default **9**)	[⊞]
"EXCLUSION" CODE (INST)	4 4	⊠...⊠ (from 1 to 3 digits; factory default **1**)	[⊞]
HANDSFREE CONNECTION TIME UPON ALARM (INST)	4 6	⊠ (minutes, from **2** to 9)	
PULSE/DTMF DIALLING (INST)	6 1	⓪ pulse	
		① **DTMF**	
NUMBER OF CALLS TO THE SAME NUMBER FOR EACH CYCLE (INST)	6 0	⊠ (calls, from **1** to 9)	
CALL CYCLES FOR TECHNOLOGICAL ALARMS AND TEST CALLS (INST)	6 2	⊠ (cycles, from 0 to 9; 0 = 10 cycles; factory default **3**)	

ADVANCED PROGRAMMING			
CALL CYCLES FOR EMERGENCY CALLS (INST)	⑥ ⑨	☒ (cycles, from **0** to 9; 0 = unlimited)	
AUTOMATIC ANSWER (INST)	⑥④	☒ (ring number from 0 to 9; 0 = disabled; factory default **1**)	
CONNECTION TIME AFTER AUTOMATIC ANSWER (INST)	⑥⑤	☒ (minutes, from **1** to 9)	
OFFSET FLOOR MESSAGES (INST)	④⓪	☒ (offset, from **0** to 9)	
RELAY SETTINGS (with optional board) (INST)	⑦⑤	① RELAY 1	① same behavior as output AI
			② same behavior as output AR
			③ active for mains failure
		② RELAY 2	④ **door opener**
			⑤ active as long as the emergency alarm progresses
			⑥ active as long as the buttons are pressed
RELAY INTERMITTENCE (INST)	③⓪	⓪ **relay 1: steady-state / relay 2: steady-state**	
		① relay 1: intermittent / relay 2: steady-state	
		② relay 1: steady-state / relay 2 intermittent	
		③ relay 1: intermittent / relay 2: intermittent	
DTMF GENERATOR SETTINGS WITH GSM200-C (INST)	⑧③	⓪ **DTMF generated by mobile network**	
		☒ DTMF generated by ST56 (DTMF duration = X * 50ms)	

READING GSM200-C SIGNAL LEVEL (INST)	②④④	
	Listened or read digits	**Quality**
	0-12	No signal
	13-18	Low signal
	19-24	Medium signal
	>24	High signal

PROGRAMMING VIA SMS (ONLY WITH GSM200-C)

All parameters programmable locally by the local telephone may also be set via SMS.

Programming via SMS is possible by any mobile phone or other device supporting SMS.

An SMS notifying that programming has been completed will be sent back by the ST56 to the same telephone number that forwarded the programming SMS.

> **WARNING**
> **Programming outgoing SMS from the Internet may not be successful if the requested format is not respected.**

Programming message format

Each programming SMS must contain the password, allowing to access programming, and the codes corresponding to the desired settings.

The message format is required to be as follows:

ET-HL3 *xxx# n…n n…n n…n

Where:

ET-HL3 : programming string start

*xxx# : password string (default xxx = 0)

n…n : programming code (e.g. to enable battery check: 521).

To set more than one parameter, enter the related codes in a sequence separated by a space, make sure you do not overcome the max number of characters allowed by a single SMS (160 characters).

Notification message format

SMS settings are acknowledged with return SMS generated by the ST56 saying which parameter is set. The acknowledge SMS is returned as soon as the setting SMS is received.

The message format is required to be as follows:

IP DTv DTv DTv OP

Where:

IP : programming access acknowledge (In Prog)

DTv: : string setting acknowledge (v = setting)

OP : programming exit acknowledge (Out Prog).

In case a telephone number has been programmed, the string setting will have the following format:

DTaNbNy…y

Where:

a: source

b: receiver

y…y: telephone number

In case a wrong setting has been entered , the acknowledge string **ER** will be returned.

In case the password is wrong , you will receive the acknowledge string **RL ER** followed by as many ER as the sent codes are.

> *Remark: settings may be displayed fully or partially in the acknowledge SMS returned after programming, depending on the characteristics of the SMS recipient devices.*

Examples

Desired settings:

- date: Thursday 04/02/16
- hour: 21.15
- automatic test call: enabled

Programming message:

ET-HL3 *0# 364040216 352115 341

Notification message:

 IP DT4040216 DT2115 DT1 OP

Desired settings:

- phone number 0717506066 in the first location associated with Emergency call (source) under User mode (receiver)
- phone number 0717506105 in the second location associated with Automatic test call (source) under Esse-ti protocol mode (recipient)

Programming message:

ET-HL3 *0# 2101120717506066# 2102330717506105#

Notification message:

IP DT1N2N0717506066 DT3N3N0717506105 OP

USE

In the tables below:

– ☎ : lift the local telephone handset;

– ☎ : lift the local telephone handset and dial ✱ 0 # to access programming.

Local

LOCAL USE	
CONVERSATION WITH THE CAR	☎ CONVERSATION
CONVERSATION WITH A SPEAKER UNIT	☎ 1 1 SPEAKER UNIT 1 ☎ 1 2 SPEAKER UNIT 2 ☎ 1 0 DEACTIVATE ALL
OUTGOING CALLS	☎ 0 <TELEPHONE NUMBER>
DOOR OPENER RELAY (with optional board)	☎ 8 2 1 RELAY 1 ☎ 8 2 2 RELAY 2

Remote use with ST56 in stand-by

➢ Call the ST56 and wait for the answer.

➢ After a short series of DTMF tones followed by the elevator identification message, dial: ✱ <PASSWORD> # (by default: ✱ 0 #).

➢ Besides the programming, the following services are available:

REMOTE USE WITH ST56 IN STAND-BY	
CONVERSATION WITH A SPEAKER UNIT	1 1 SPEAKER UNIT 1 1 2 SPEAKER UNIT 2 1 0 DEACTIVATE ALL
DOOR OPENER RELAY (with optional board)	8 2 1 RELAY 1 8 2 2 RELAY 2

SIGNALS

Device status LED

Normal operation (no alarm)

Alarm

Battery disconnected or low battery (max. 1-hour operation in idle state)

LED signalling GSM200-C signal strength

No signal

Low signal level (connection not guaranteed)

Medium signal level

Good signal level

High signal level

Given alarm indicator light (yellow)

Alarm

Received alarm indicator light (green)

Voice connection

Missed test call notification

The Given alarm indicator light and the Received alarm indicator light flash in opposition to indicate the failure of the automatic test call.

The flashing sequence ends after the next successful test call or emergency call.

Given alarm indicator light

Received alarm indicator light

EU DECLARATION OF CONFORMITY

Hereby, Esse-ti S.r.l. declares that the equipment type ST56 is in compliance with Directives 2014/30/EU - 2014/33/EU - 2014/35/EU.

The full text of the EU declaration of conformity is available from the following Internet address:

https://www.esse-ti.it/dichiarazioni-di-conformita

NOTE