Tecnofire DETECTION

Phone dialer



TFCOM

EN 54-21 | RSC® | PSTN | PSTN ATE2 | SELF POWERED | VOICE SYNTHESIS | FLASH MEMORY | USB PORT | METAL BOX

PSTN telephone dialer approved for use in conjunction with Tecnofire fire detection systems. Integrated PSTN telephone vector. Optional telephone vector: GSM-LTE. 8 communicators / channels for telephone notification of events, 1 communicator / call back channel dedicated to connection with the management center.
Transmissible events 33 categories. Transmissible area events 5 types. 2 telephone numbers or IP addresses for each communicator. 29 communication protocols functional to telephone notification vectors. Transmission formats: Voice, SMS, Ring, DTMF, Data. Security: encrypted communications, supported encryption AES 128/256 bit, independent passphrase programming for each channels / communicator.
Automatic diagnosis functions: communication vectors, power supply, battery, serial Bus.
Front panel with 6 LEDs for signaling operating states. Fault output.
Complete RSC® management of the device: programming, remote management and control of all operating parameters. Integrated Flash memory for customizing vocabulary, manageable from a personal computer as an external disk. USB port. RS485 Bus connection. Addressed device. Metal container.
Degree of protection IP3x. Battery compartment: 1 of 12V-7Ah. Dimensions (W x H x D) 315 x 255 x 82mm.
Color: Grey. EN 54-21: 2006. Approval certificate: 0051-CPR-0454.

Item no. TF2TFCOM

OBLIGATIONS AND NOTICES

The TFCOM phone dialer can be used only if connected to an expansion serial bus of the Tecnofire control units models: TFA1-298, TFA2-596, TFA4-1192 and TSA1. During design and installation, it is necessary to observe and apply the applicable regulations.

OVERVIEW

The TFCOM phone dialer allows to expand the transmission carriers and the phone notification communication methods of the following Systems: TFA1-298, TFA2-596, TFA4-1192 and TSA1.
The phone dialer belongs to the category "Expansion devices". The Systems TFA2-596 and TFA4-1192 can manage up to 16 expansion devices, the Systems TFA1-298 and TSA1 can manage up to 5 expansion devices.
The telephone dialer can be connected according to the control unit used and to the System topology to the Master or Slave Bus, in open loop or closed loop mode. The System Buses are supervised, the control unit is able to detect and report a connection line break, with closed-loop configuration the control unit still maintains the normal operation of the network. The Tecnofire Systems can manage multiple TFCOM dialers.

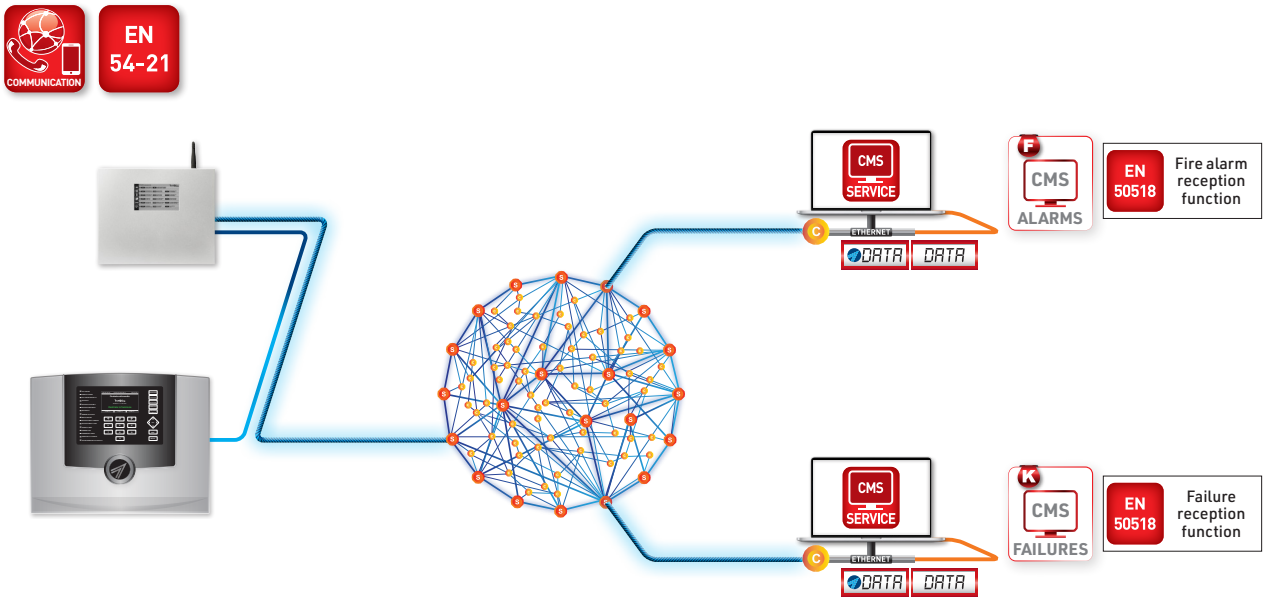
TFA2-596 and TFA4-1192 systems communications carriers



TFA1-298 System communications carriers



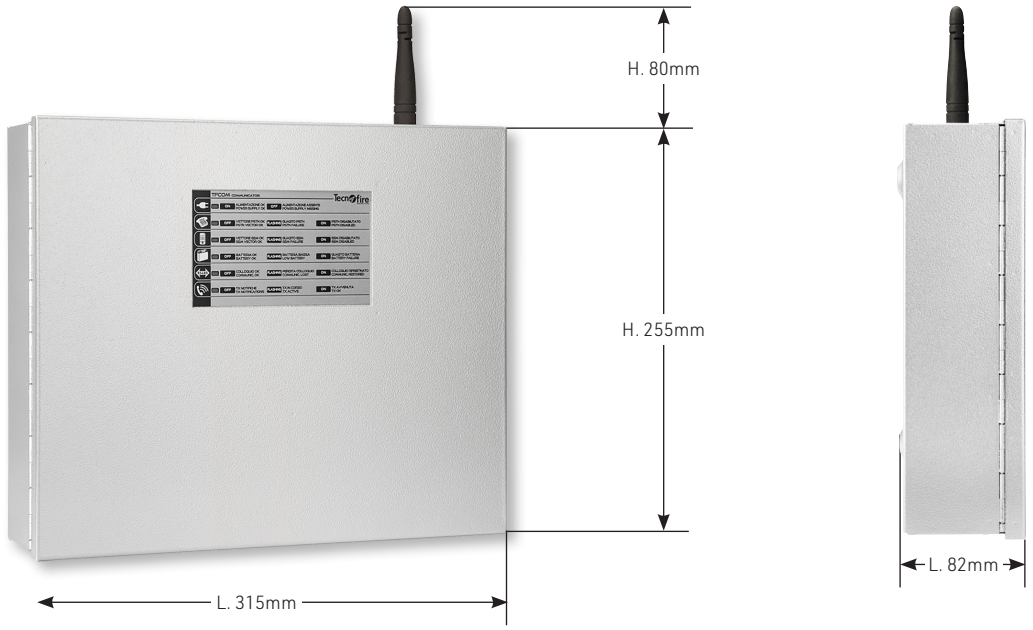
Phone dialer



CONNECTION TO THE SERIAL LINE

The connection line is balanced, the balance must be set by dip switches or jumpers only on the last device connected.
To connect the devices it is mandatory to use multipolar shielded cable with flexible wires. The signal connection wires A and B must be twisted.
The maximum length allowed for Bus lines of the system is 1000mt. You can achieve greater distances using an optical fiber connection instead of an electric cable.
For reasons of electrical safety and to improve the immunity to interferences, the shielding of the cables must be connected so as not to break their path and must be connected to the ground terminal only inside the fire detection control unit.

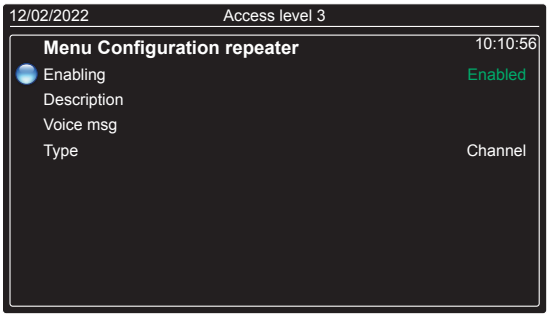
Bus extension / cable specifications		
Max. extension 1000 m	**Minimum section**	**Electrical resistance**
Power supply wires	2 x 1.5 mm²	<13,3 Ohm x Km
Signal wires	2 x 1 mm²	<19,5 Ohm x Km



Phone dialer

ADDRESSING AND IDENTIFICATION

The serial identification physical address of the TFCOM phone dialer is set via the SW2 Dip-switch located inside the cabinet, on the motherboard where the cables are connected.
The TFCOM dialer is an expansion device, the numeric range of the addresses allowed for the expansion devices is address 1 to 16. Please note that setting address 0 disables the dialer. The address set on the dialer must be enabled from the relevant "Repeaters Setup" menu of the control unit. Access to the menu is allowed only to users provided with Level 3 password.



Repeaters Setup	
Enabling	Enabled or Disabled
Description	Menu to enter alphanumeric description
Voice msg	Menu to select the voice message
Type	Selection of the type of Repeater

Selection of the type of Repeater	
Dialer	TFCOM Dialer
Repeater	TFT-7 repeater panel
Dashboard	TFT-7S dashboard repeater panel

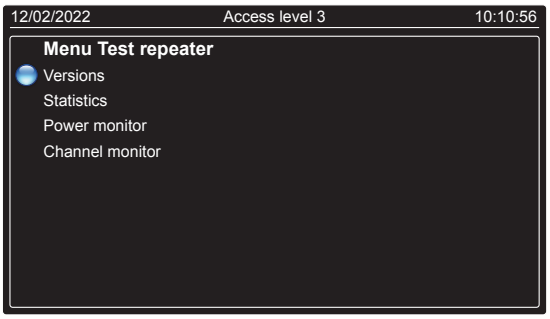
Repeater phrase menu	
Word	Selection of 4 words that make up the voice message that identifies the device
Word	
Word	
Word	

Repeater title menu

Enables or disables the Repeater	
Enabled	The Repeater is enabled
Disabled	The Repeater is disabled

DIAGNOSTIC FUNCTIONS

The control unit manages a set of specific diagnostic functions for the expansion devices.
The diagnostic functions that are available for the phone dialer allow to:
- Identify the equipment and versions of the resources.
- Read the statistics from the communication monitor
- Monitor the value of the power voltage.



Repeater test	
Versions	Resource equipment and version
Statistics	Communication monitor statistics
Power monitor	Power supply sources monitor
Channel monitor	Functional monitor of the dialer

Dialer Monitor	
PSTN	Device status (Enabled-Disabled)
GSM	Device status (Enabled-Disabled)
GSM Status	Registration to the mobile phone network
Operator	Displays the phone carrier ID
Field	Displays the GSM signal level
Firmware	Device firmware version

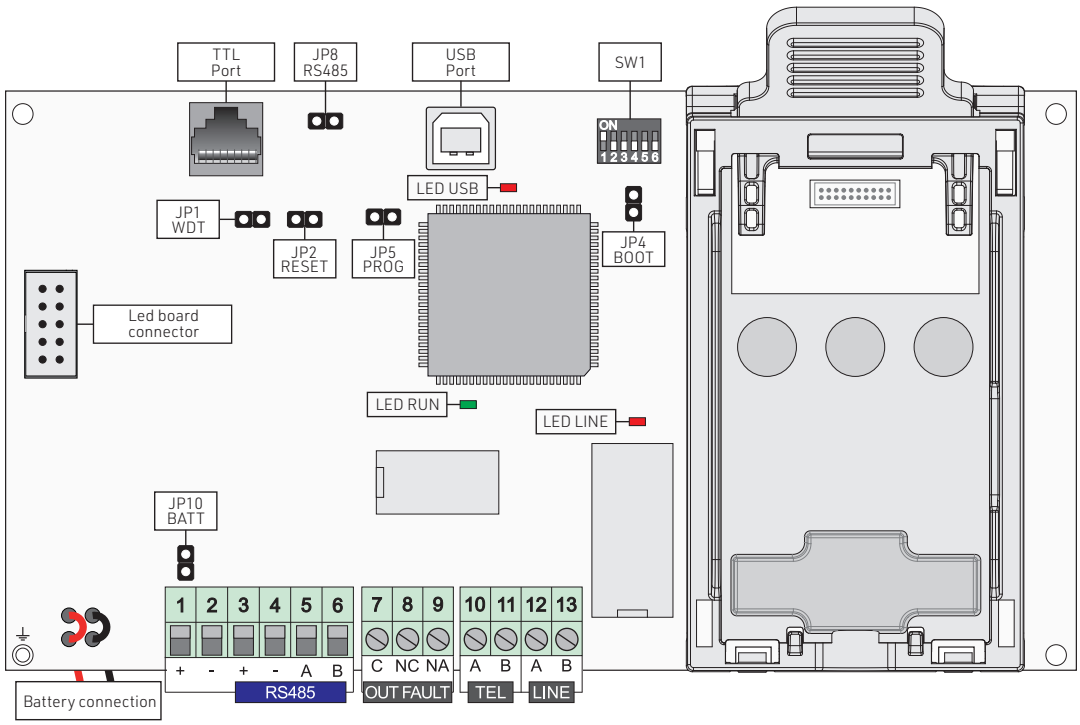
Power supply monitor	
Supply voltage	Detects the external power supply
Battery voltage	Detects the battery supply

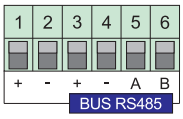
Statistics	
Frames sent	Communication frames counter
Errors	Faulty frames counter
Success Rate	Percent value
Error rate	Percent value

Versions	
Firmware	Device firmware version
Writings	Set of writings used
Dictionary	Dictionary version
Serial number	Serial number of the device
Licences	Enabling string

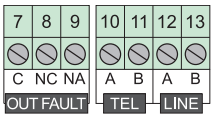
Phone dialer

CARD AND TERMINAL BOX TOPOLOGY





1	+	Supply positive	Supply input	24V DC
2	-	Supply negative		
3	+	Supply positive	Supply output	24V DC
4	-	Supply negative		
5	A	Communication channel A	Communication channels	Data
6	B	Communication channel B		



7	C	Common contact	Fault output Relay (free contact) Protected contacts (PTC Imax, 0.75A)
8	NC	Normally closed contact	
9	NO	Normally open contact	
10	A	Phone output (A)	V DC phone line
11	B	Phone output (B)	
12	A	Telephone line input (A)	
13	B	Telephone line input (B)	

NOTICE - Limitations of use of the outputs
The FAULT output (terminals 7, 8, 9) is not supervised (type J according to EN 54-1 nomenclature) and therefore, in accordance with EN 54-2, should not be used to control devices for the transmission of fault notifications
NOTICE - Device power supply
The serial line power supply consists of two pairs of power supply terminals, in accordance with EN 54-21 (terminals 1-2 and 3-4).

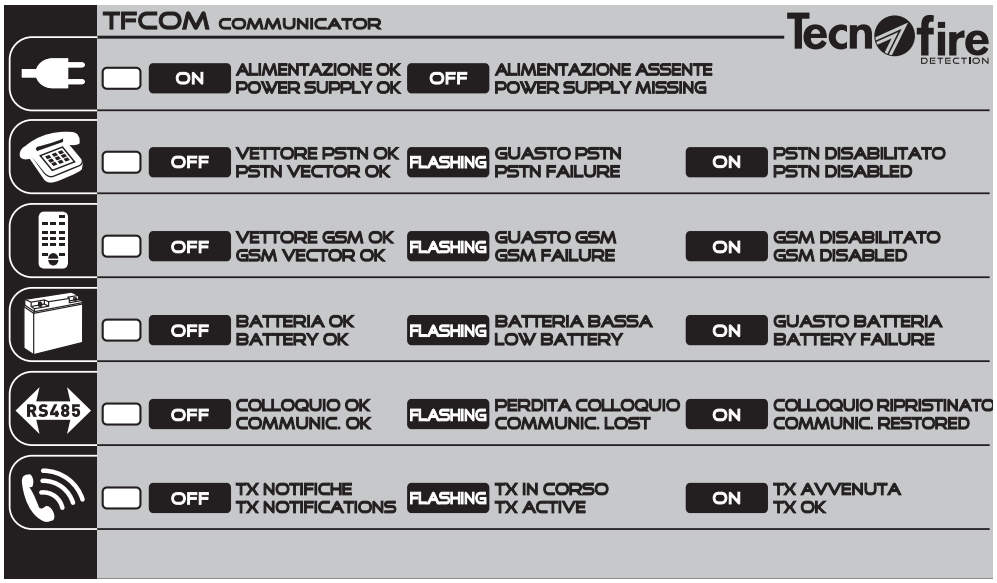
Identification	Operating state	Jumpers function	Supervision
JP1 - WDT	Open	Watchdog reset disable	Supervised operation state. In normal operation, the jumpers must be open.
JP2 - RESET	Open	Hardware reset	
JP4 - BOOT	Open	Used to upgrade the product firmware via the USB port and during DEBUG	
JP5 - PROG	Open	Used to update the firmware of the product via the serial port	
JP8 - RS485	Open	With the jumper open, the Bus is not terminated. Open the jumper when the communicator is not the last device connected on the Bus. Condition valid for both wiring configurations of the line Bus: open or closed	
	Closed	With the jumper closed, the Bus is terminated. Close the jumper when the communicator is the last device connected on the Bus. Of course only if the connection Bus is in open line configuration.	
JP10 - BATT	Open	With the jumper open, the battery is automatically released due to low battery voltage for Vbat <8.9V DC. The polarity reversal safety is enabled.	
	Closed	With the jumper closed, the battery automatic release function is disabled. The polarity reversal safety is disabled.	

Identification	Colour	Function
RUN LED	Green	LED monitoring the functional state of the communicator. Flashing: normal operation state
LINE LED	Red	LED signalling the use of the PSTN phone line by the communicator
USB LED	Red	LED monitoring the activities of the USB port; flashes to indicate data exchange

LOCAL REPORTS

The LED on the front panel display locally the operating states of the phone dialer.
The information displayed are also transmitted at system level to the control unit.
The phone dialer functionally tests its components in a continuous manner or at preset times.

Under conditions of normal operation, that is: no transmission of notifications and total absence of faults and deactivations, only the green LED "POWER SUPPLY" is on.



Notification	Colour	Type of notification	Notification modes	
ALIMENTAZIONE POWER	Green	Reports the power supply status of the device	**Off**	Power supply off
			On	Power supply on
VETTORE PSTN PSTN VECTOR	Yellow	Reports the status of the PSTN section	**Off**	PSTN Dialer OK
			Flashing	PSTN Dialer KO
			On	PSTN dialer not enabled
VETTORE GSM GSM VECTOR	Yellow	Reports the status of the GSM section	**Off**	GSM Dialer OK
			Flashing	GSM Dialer KO
			On	GSM dialer not enabled
BATTERIA BATTERY	Yellow	Reports the status of the buffer battery: battery low or defective/missing	**Off**	Battery charged and operating
			Flashing	Low battery (drained)
			On	Battery fault or missing battery
COLLOQUIO BUS COMMUNICATION	Yellow	Indicates the state of the connections between the devices connected on BUS485 (control units and/or repeaters)	**Off**	Communication with devices on BUS485 OK
			Flashing	Communication fault on BUS485 (not acknowledged)
			On	Communication fault on BUS485 (acknowledged)
TX NOTIFICHE TX NOTIFICATIONS	Red	Reports the transmission states of phone notifications to remote receiving devices.	**Off**	No phone notification transmitted
			Quick flashing	Telephone notification transmission in progress
			On	Telephone notification transmitted successfully

Note: Battery LED - the notification remains visible until the alarms are reset, only if automatic acknowledgement of faults is turned off.

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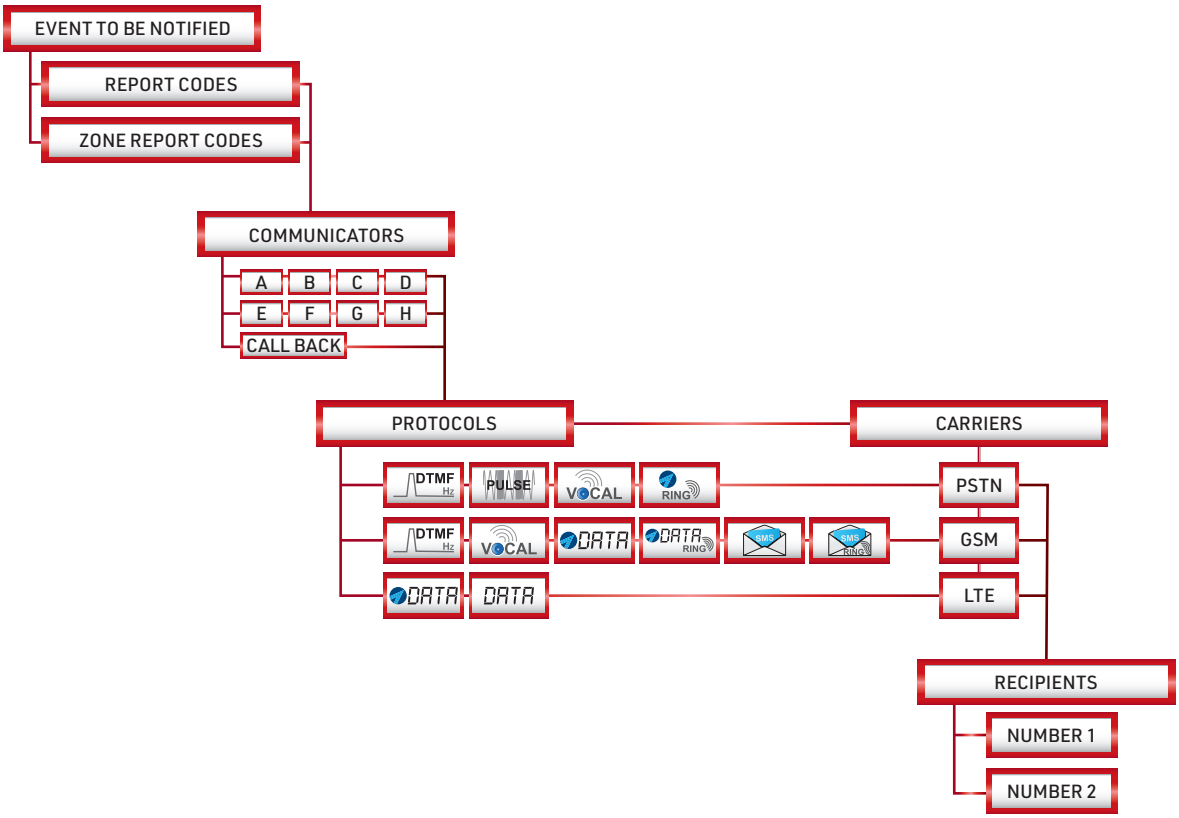
CENTRO SOFTWARE

The dialler can be set using a PC running the configuration software "Centro"
The table lists the programming menus of TFCOM with a brief functional description.

	Menu	Description
Centro	Channels	Setting of the eight notification phone communicators and of the Call back communicator. For each communicator it is possible to set a primary and a secondary phone number, a communication protocol and an identification code.
	Report codes	The associations between report codes and phone communicators is free. Each event can be associated with one or more communicators.
	Zone report codes	The associations between zone report codes and phone communicators is free. Each System zone can be associated with one or more communicators.
	Time settings	Timer settings that determine communicators activation delay (only for fire alarm events) and the delay in reporting no power supply from RS485 bus line.
	Security	Setting of the Passphrases used by the communicators for communication encryption. Please note: the use of the Passphrase should be agreed with the recipients of the communication.
	Options	Setting of the automatic acknowledgement of system faults, of the global muting of the phone cycle, of the initial voice message, of the redirection to LTE and of the redirection to IP.
	PSTN	Setting of functional parameters of the PSTN phone carrier, enabling of the responder function, selection modes, line testing, enabling to control of answer and control unit phone tones.
	GSM	Enabling of GSM telephone carrier, enabling of the responder function, setting of the number of rings on answer, entry of SMS header.
	Mobile network	Enabling of the LTE communication carrier and setting of network access parameters.
	Airtime SMS	Setting of phone credit request mode for prepaid SIM Cards.

OPERATING LOGIC

The operating logic of the TFCOM phone dialer can be summarized as follows: System functional events are notified by the communicators, with the communication modes and the carrier defined by the protocol.
In detail, settings define the function and the communication mode of the eight phone communicators. The settings associate to the communicators the events to be notified and the communication protocol to be used, the protocol in turn defines the transmission means, that is the communication carrier.
The last setting necessary to forward notifications is the target phone number or IP address of phone notifications.
The logical interaction of the elements described is schematically shown in the following block diagram.



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OPERATING PARAMETERS

The eight communicators operate independently according to the operating parameters set:

Phone numbers

Phone numbers no. 1 and no. 2 are the recipients of event notifications (for LTE protocols in place of the number you can set the IP address). The first number is the primary recipient, the second number is called only if the communication to the first recipient fails.

For the syntax of the IP addresses you can use two modes, address only or address and communications port:

IP address - The IP address consists of 4 numeric fields, interspersed by a character, dot or dash, in this case the dialer uses the port set for the TECNOSERVER TECNOALARM Client channel.

IP address and communication port - In this case a 5th numeric field that defines the port is appended to the 4 numeric fields of the IP address. The 5 fields must be separated by the dot or dash character.

ID (identification)

Numeric code (max. 6 digits), with which the recipient (alarm reception centre) identifies the origin of the notification.

If the ID is not set, the communicator sends the identification of the control unit.

Protocol

Communication mode of the notification.

The communication protocol can be either audible or digital.

The use of digital protocols should be agreed with the receiving reception center.

See table of available protocols.

PHONE COMMUNICATORS

To send alarm notifications, the dialer uses the PSTN phone carrier and, if available, the optional TFESP-4G module, provided with GSM and LTE communications carriers.

The dialer manages 8 independent phone communicators, identified with the characters A through H.

The forwarding priority of the alarm notifications sent by the communicators are managed by the System according to a priority criterion, based on the alphabetic identification of the communicator (communicator A has the highest priority, communicator H has the lowest priority).

Therefore, it is necessary that the most important notifications are associated with the priority communicators, privileged in issuing notifications in the following order:

A, B, C, D, E, F, G and H (where H has the lowest priority).

The communicators are logical units that deal with managing communication in the following manner:

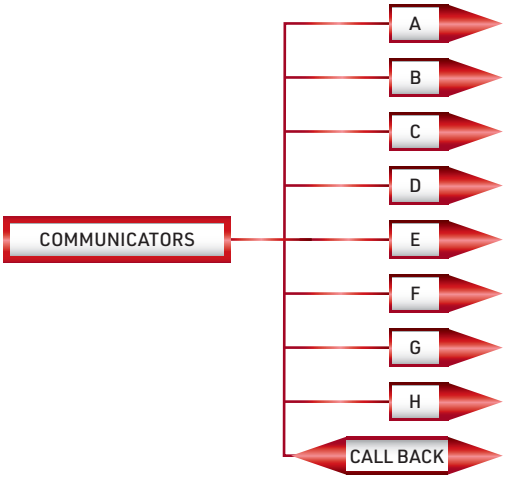
Dialling the phone number of the addressee of the notification.

Carrying out the communication, and if necessary repeat the attempt according to the rules dictated by the notification cycle.

Recording in the Event log the outcome of the communication.

Managing the dialer signalling LED "TX NOTIFICATIONS".

Reporting any faults related to its functioning and to the success of the phone notification cycle.



EVENT QUEUE

When an event occurs, the dialer checks whether the event is associated with a communicator. If the event is associated it becomes an item of the "Event Queue".

The Event Queue can hold up to 64 items.

The Event Queue is processed according to the following rules:

Communicator - Order of priority of communicators from A (highest priority) to H (lowest priority).

Forwarding Priority - Order of priority of communicable event categories: 1 High Priority, 2 Medium Priority, 3 Low priority.

History - Chronological order, in case of equal priority the oldest event is processed.

When an event with a higher priority than the queue under management occurs, the current call is aborted to manage the priority event, the aborted call is queued and will be handled as soon as possible.

The communicator sends within the same communication session all the events of the queue associated with it.

COMMUNICATION PROTOCOLS AND CARRIERS

The protocol is the way in which the phone notification is communicated. Each protocol contains its own operating rules, concerning how the message is notified (how do I communicate it?) and the means of communication, that is the carrier with which the message is forwarded to the recipient (what do I use to communicate it?). The selection of a communication protocol must be made as a function of the communication carrier that you want to use (I communicate it with!), and of the recipient to whom you want to send the message (how I communicate it!).
The communication carriers are the transmission means through which the notifications are sent to the recipient in the mode defined by the protocol.
The communication carriers of the TFCOM dialer are:
PSTN - public switched telephone line, basic provision.
GSM/LTE - Phone module TFESP-4GS, optional expansion.
The "Carrier Protocols" tables list the available communication protocols sorted by carrier. For each protocol the following information is provided: the numerical identification code, the name, the description, the transmission mode, the Encryption used and the Timestamp when available and whether the protocol operates in Backup mode.

PSTN carrier protocols

Carrier	Number	Name	Description	Mode	Encryption	Timestamp	Backup
PSTN	000	Tecno	Tecnoalarm	DTMF			
	001	Vocal	Voice message	VOCAL			
	008	Tecno RING	Tecnoalarm Tecno ring	RING			
	009	Voc.CF	Voice message w.conf.	VOCAL			
	114	SIA 1	fsk sia 1	PULSE			
	122	SIA 2	fsk sia 2	PULSE			
	131	DTMF C.ID s	Ademco Contact ID (single)	DTMF			
	139	DTMF C.ID	Ademco Contact ID	DTMF			
	196	Vocal	Voice message	VOCAL			GSM (193)
	200	Tecno	Tecnoalarm	DTMF			GSM (160)
	204	Vocal CF	Voice message w.conf	VOCAL			GSM (201)
	209	DTMF CID	Ademco Contact ID	DTMF			GSM (208)
	212	DTMF CID	Ademco Contact ID France	DTMF			GSM (211)

GSM carrier protocols table

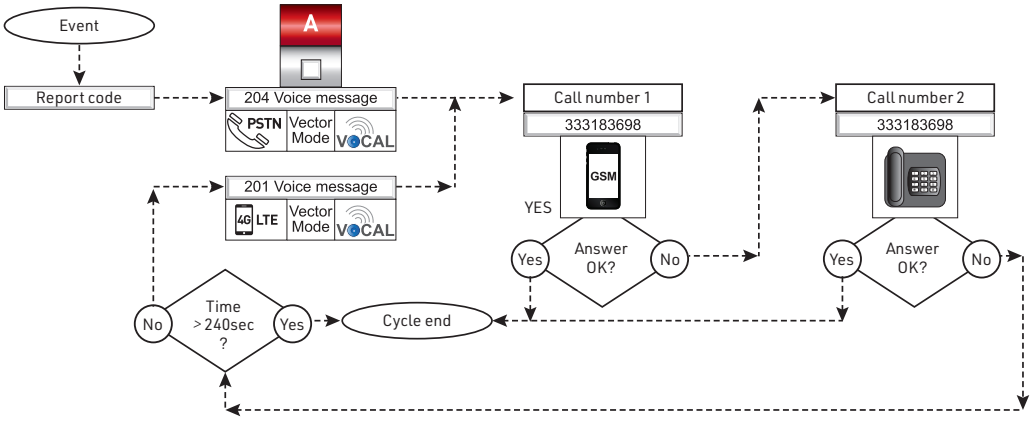
Carrier	Number	Name	Description	Mode	Encryption	Timestamp	Backup
4G GSM	166	SMS	SMS	SMS			
	167	SMS RING	SMS whit ring	SMS RING			
	175	Tecno GSM-DATA	Tecnoalarm GSM-DATA	DATA			
	183	SMS Credit	SMS whit airtime request	SMS			
	190	Tecno RING GSM	Tecno GSM DATA Ring	DATA RING			
	193	Vocal	Voice message	VOCAL			
	201	Vocal CF	Voice message w.conf	VOCAL			
	208	DTMF CID	Ademco Contact ID	DTMF			
	211	DTMF CID	Ademco Contact ID France	DTMF			

LTE carrier protocols

Carrier	Number	Name	Description	Mode	Encryption	Timestamp	Backup
4G LTE	115	SIA-GPRS-T	SIA-GPRS-T Reporting [TCP-2007]	DATA		✔	
	116	C.ID-GPRS-T	C.ID-GPRS-T Reporting [TCP-2007]	DATA		✔	
	117	SIA-GPRS128b	SIA-GPRS Encrypt 128 [TCP-2007]	DATA	AES 128 BIT ENCRYPT		
	118	C.ID-GPRS 128b	C.ID-GPRS Encrypt 128 [TCP-2007]	DATA	AES 128 BIT ENCRYPT		
	156	SIA-GPRS 256b	SIA-GPRS Encrypt 256	DATA	AES 256 BIT ENCRYPT		
	157	C.ID-GPRS 256b	C.ID-GPRS Encript 256	DATA	AES 256 BIT ENCRYPT		
	182	Tecno GPRS-DATA	Tecnoalarm GPRS-DATA	DATA	AES 128 BIT ENCRYPT		

BACKUP PROTOCOLS

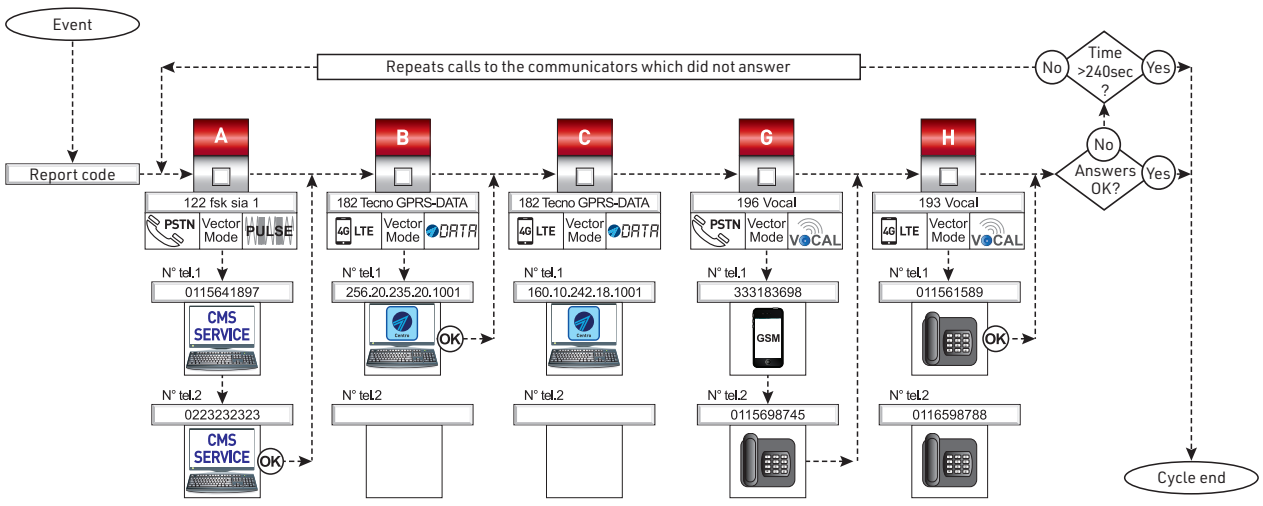
A Backup Protocol normally carries out its phone cycle using the PSTN carrier. If for any reason the PSTN carrier fails to notify the event, the Backup protocol automatically activates the GSM carrier and, using a protocol compatible with the carrier, repeats the attempt to execute the phone notification cycle.



NOTIFICATION CYCLE

The phone notification cycle is governed by a maximum execution time of 240 sec., within which the cycle of calls in progress must end. When the maximum time has elapsed, the phone cycle stops and the communication fault report is activated.
The communicators execute alarm notification calls according to precise functional rules defined by the Notification Cycle.
The Notification Cycle is performed according to the following rules:
The recipient no. 1 (main) is contacted, if it cannot be reached, the recipient no. 2 (secondary) is contacted.

If both recipients do not answer, the dialer selects the possible next communicator associated with the event, repeating the calls. If the communicator within 240 sec fails to notify the events to the phone numbers associated with it, the control unit activates the communication failure report. The failure is also recorded in the event log of the control unit.
Note: the maximum time limit of the phone cycle is set by the standard EN 54-21: 2006.
To avoid unnecessary fault messages due to the continuation of the telephone cycle, it is recommended to limit its duration and to avoid associating too many phone communicators to the events.



REPORT CODES

The dialer notifies the System events by sending report codes. The TFCOM dialer manages two types of report codes, the first called "Report Codes" sorts all System events in homogeneous categories. Enabling the category you enable transmission of all events grouped in it. The second, called "Zones report codes "only includes events relating to Zones, and provides the possibility to freely associate the events of each zone and of each single control unit to the telephone communicators.
The table "Categories of transmissible events" lists all report codes categories. The grouped events, their description and transmission priority are provided for each of them. To simplify the setting procedure, the events are grouped into homogeneous categories.
Enabling a category you enable the transmission of all the events grouped in it.
The communicator sends within the same communication session any events associated with it.
The phone cycle is momentarily stopped if events with highest priority must be transmitted by other communicators.

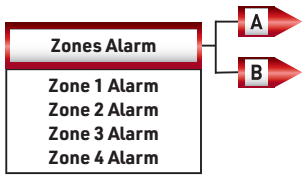
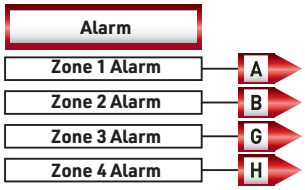
Report codes categories

CR and CRZ	**Zones Alarm** Priority 1 (high)	Zones Alarm
CR	**Module sensor alarm** Priority 1 (high)	Sensors alarm
		Modules alarm
CR and CRZ	**Zones alert** Priority 1 (high)	Zones alert
CR	**Sensor Modules Alert** Priority 1 (high)	Sensors alert
		Modules alert
CR and CRZ	**Zones Technical Alarm** Priority 3 (low)	Zones Technical Alarm
CR	**Module sensor technical alarm** Priority 3 (low)	Sensor Technical Alarm
		Module Technical Alarm
		Sensor technical alarm reset
		Module technical alarm reset
CR and CRZ	**Zones Fault** Priority 2 (normal)	Zones Fault
CR	**Module sensor fault** Priority 2 (normal)	Sensor fault
		Module fault
CR	**Devices Fault (RS485)** Priority 2 (normal)	Device Fault
		Timer Reset
		Device fault reset
CR	**Alarm Acknowledgement** Priority 3 (low)	Alarm category acknowledgement
CR	**Alert acknowledgement** Priority 3 (low)	Alert category acknowledgement
CR	**Technical alarm acknowledgement** Priority 3 (low)	Technical alarm category acknowledgement
CR	**Fault acknowledgement** Priority 2 (normal)	Fault category acknowledgement
CR	**User operations** Priority 3 (low)	Alert automatic acknowledgement
CR	**Module sensor exclusion** Priority 3 (low)	Sensor exclusion
		Module exclusion
CR	**Module sensor inclusion** Priority 3 (low)	Sensor inclusion
		Module inclusion
CR	**Event download request** Priority 3 (low)	Event memory download

CR	**System General Reporting** Priority 3 (low)	Line reset
CR	**System Fault** Priority 2 (normal)	System failure
		System fault reset
CR	**Zones exclusion** Priority 3 (low)	Zones exclusion line reset
CR	**Zones inclusion** Priority 3 (low)	Zones inclusion
CR	**Devices Exclusion (BUS485)** Priority 3 (low)	Devices exclusion
CR	**Devices Inclusion (BUS485)** Priority 3 (low)	Devices inclusion
CR	**Control Unit repetition exclusion** Priority 3 (low)	Repetition exclusion
CR	**Control Unit repetition inclusion** Priority 3 (low)	Repetition inclusion
CR	**Manned** Priority 3 (low)	Manning activation
		Manning deactivation
CR	**Sirens** Priority 3 (low)	Sirens muting
		Sirens Reset
CR	**Reset** Priority 3 (low)	Reset
CR	**Evacuation** Priority 3 (low)	Evacuation activation
CR	**Cyclic test** Priority 3 (low)	Cyclic test
CR and CRZ	**Zone Technical Alert** Priority 3 (high)	Zone Technical Alert
		Zone technical alert reset
CR	**Module sensor technical alert** Priority 3 (high)	Sensor technical alert
		Module technical alert
		Sensor technical alert reset
		Module technical alert reset
CR	**Technical alert acknowledgement** Priority 3 (low)	Technical alert category acknowledgement

Report code classification - the acronyms CR and CRZ indicate the classes: **CR = Report Codes - codes = CRZ Zone Report Codes**
Note - The report codes of Zone functional states can be associated with the communicators in the modes: General Association and/or Specific Association.
General association - To define general associations, from Centro software use the setting screen "Report Codes".
Specific association - To define specific associations, from Centro software use the setting screen "Zone Report Codes".
With the general association the communicator/s are associated with the type of event for all the zones of all the control units.
With the specific association, the events of each zone of each control unit that makes up the system can be freely associated to the communicators.

Phone dialer

General Association - Report Codes	Specific Association - Zone Report Codes
	
Example - The "Zone Alarm" report code that groups the Alarms of all the zones is associated with communicators A and B. The two communicators transmit Zone Alarm phone notifications to the phone numbers associated with them.	**Example** - The "Alarm" report codes in zones 1, 2, 3 and 4 are independently associated to communicators A, B, G and H. Each communicator transmits the "Alarm" phone notification of the Zone or Zones associated with it.

ACKNOWLEDGEMENTS

The recipients of the calls, either users or automatic alarm reception devices, can stop the call in progress with set commands.
Muting from alarm reception centre
After a call, all the alarm reception centres automatically send the muting command to the dialer.

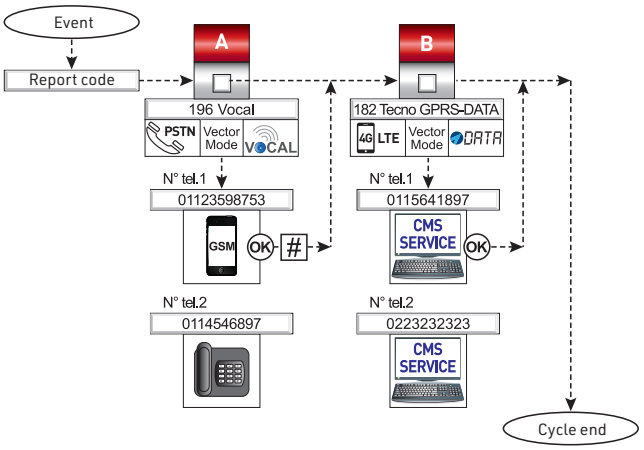
Voice calls

For voice calls, it is the online user that sends the muting command. During the call, after listening to the message, the user can mute the communicator by typing from the keyboard of his telephone the key (*) or (#).

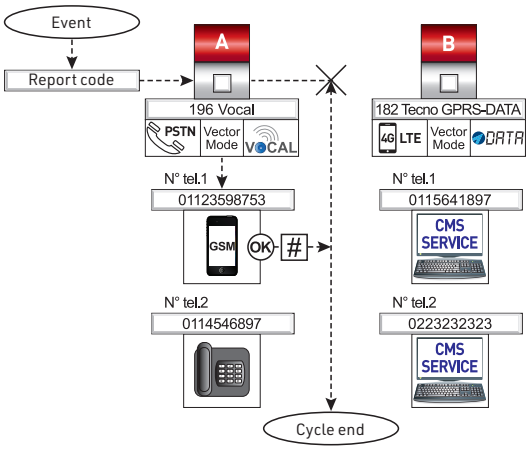
Global muting of communicators

Muting can also be set as global muting, enabling the function "Dialer global muting" in the Options menu. In this case a muting command stops the current call and disables all subsequent calls to all the communicators associated to the muted event

Muting

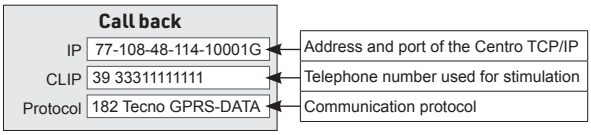


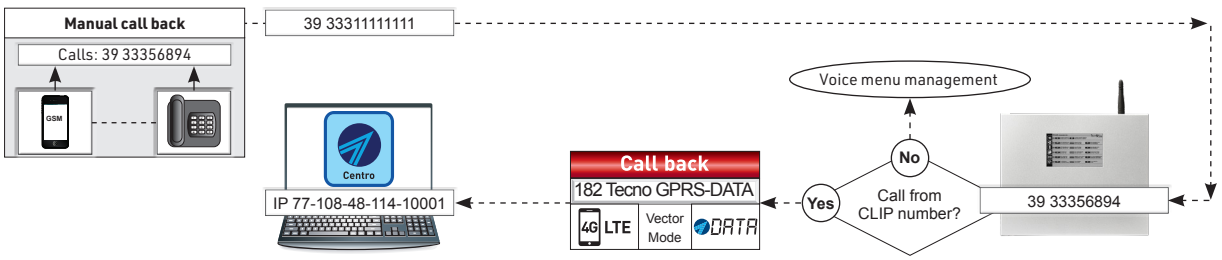
Global muting



TCP/IP REMOTE MANAGEMENT

With the Call back communicator you can remotely manage the System. Remote management can only be executed via the LTE carrier.
The Tecnoserver (TCP/IP remote management) allows to execute the Call back request in CLIP mode. The Call back request can be forwarded to the TFCOM dialer with any phone, provided that its number is equal to the number set in the CLIP field of the Call back Communicator. The TFCOM dialer verifies the number the call is coming from and if it is equal to the CLIP number, activates the Call back call using the LTE carrier with the communication protocol 182 GPRS-DATA.





Phone dialer

DEDICATED ACCESSORIES

TFESP-4G

EN 54-21 | 4G GSM-LTE | VoLTE Voice over LTE 4G | PSTN ATE2 | LTE ATE4 | INTERNAL EXPANSION



GSM-LTE expansion module for TFCOM telephone dialer. Integrated GSM and LTE standard 4G telephone carriers. Communication protocols: 16 protocols for GSM-LTE carriers and 5 backup protocols for the PSTN carrier. Transmission formats: Voice, SMS, Ring, DTMF, Data.
The module manages the VoLTE service (high resolution voice calls).
Security: encrypted communication, 128/256 Bit AES supported, independent passphrase programming for each communicator.
Classification of telephone notification means according to the communication protocol of the GSM carrier user: Class ATE2, LTE carrier: Class ATE4.
Plug-in mounting on TFCOM card.
EN 54-21: 2006. Approval certificate: 0051-CPR-0454.

Item no. TF2TFESP4G

TFCOM - Technical data and functions

Generality	Phone dialer	**TFCOM**
	Communication protocol	**FIRE-BUS**
	Addressing	**Dip-switch**
	Connection	**Bus RS485**
TLC specifications	Speech synthesis	**Vocabulary monolingual**
	Telecommunications channels	**8 + 1**
	Phone numbers - IP addresses	**8+8 (24 characters)**
	Report codes	**33 (categories)**
	Zone report codes	**5 (types)**
	Telephone queue items	**32**
	Communication protocols	**29**
	Encryption	**AES 128/256 bit**
	Passphrase	**Programmable**
PSTN vector	Integrated telecommunication vector	**PSTN**
	Compliant	**ETSI ES 203 021-1**
	Transmission time maximum value D4	**8 sec**
	Transmission time maximum value M3	**9 sec**
GSM-LTE vector	GSM optional telecommunication vector	**4G - LTE**
	GSM-LTE telephone module	**TFESP-4G**
	Transmission time maximum value D4	**5 sec**
	Transmission time maximum value M3	**5 sec**
Equipment	Data memory	**Flash 1 Gbit**
	Management interface	**USB port**

Outputs	Fault signalling relay	**Imax 750mA**
Battery	Battery housing	**1 (12V/7Ah)**
	Flammability class	**UL94-V2 o superiore**
	Trip voltage	**For Vbat ‹8,9V**
	Current for battery charger	**Limited to 0,85A**
	Charge time	**100% in 12 hours**
Electrical specifications	Power supply	**From Serial Bus**
	Rated Voltage	**24V DC**
	Operating voltage	**20V...27,6V DC**
	Stand-by consumption	**90mA @ 24V DC**
	Max. consumption	**140mA @ 24V DC**
Physical specifications	Operating temperature:	**-5°C...+40°C**
	Relative humidity	**10%...93% (non condensing)**
	Protection class	**IP3x**
	Enclosure	**Metal**
	Dimensions (L x H x D)	**315 x 255 x 82mm**
	Antenna height	**65mm**
	Weight	**2,5kg**
Conformity	Fire standard	**EN 54-21:2006**
	Phone standard	**EN 50136-1-1 EN 50136-2-1**
	Approval certificate	**0051-CPR-0454**
	Year of CE marking	**16**
	Number of the declaration of performance	**016_TFCOM**
	Certification body	**IMQ**
	Approved for use in combination with control units TFA1-298 - TFA2-596 - TFA4-1192 - TSA1	

N.B. The declarations of conformity and performance can be found at: www.tecnofiredetection.com

Tecnofire DETECTION by Tecnoalarm

MADE IN ITALY

ISO 9001

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21ISTR10369 - DATA SHEET ENG - REL. 2.0