

929 FINGERTRAX+G/ST & /SU

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A powerful terminal integrating
Fingerprint Recognition 1:N and 1:1
for Access Control, Time & Attendance
and other AIDC applications



Based on the versatile TRAX+G platform, FingerTRAX/ST and /SU are terminals for AIDC (Automatic Identification & Data Collection) applications like **Time & Attendance** and **Access Control** integrating a fingerprint reader module beside more traditional card readers. The two versions have different biometric engines, FingerTRAX/ST for the verification only (1:1) of the used identity, while FingerTRAX/SU is capable of both Identification (1:N) and verification modes, at the same time, too.

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OVERVIEW

Flexible architecture

FingerTRAX terminals have the possibility of creating several different types of configurations and applications using fingerprint verification/ identification in different types of transactions, offline, online, or semi-online.

High security Access Control and Reliable Time & Attendance

- User's card reading or PIN entry have to be confirmed by fingerprint recognition (**1:1 verification mode**) or just the finger can be used for the identification (**1:N**);
- user identity fully guaranteed in 1:1 mode;
- scarred fingers don't affect fingerprint recognition.

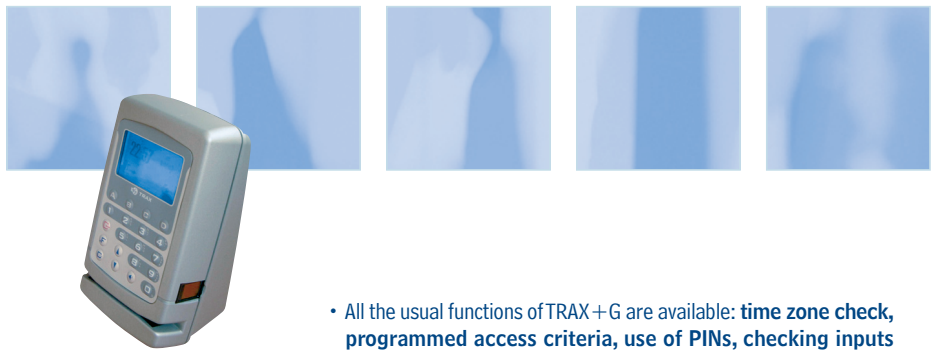
Protection of personal data

- No fingerprint images are handled or stored inside FingerTRAX+G;
- during the enrollment phase the fingerprints features are extracted and stored as templates and they are associated with the user's personal code;
- it is then possible to transfer the templates to all other FingerTRAX+G terminals;
- all transactions take place in such a way as to protect individual privacy.

EXTENDED FUNCTIONS

- The TRAX+G based authorization list, together with the integrated fingerprint reader, ensure that **only an authorized person can pass through**.
- FingerTRAX/ST biometric module can verify the user identity by fingerprint (**1:1 verification**) after entering the personal code by card reading or manual typing.
- FingerTRAX/ST has also the possibility of the "**shortcode**" mode, for avoiding card reading or manual entering of long personal codes... **just press two keys and put your finger!**
- FingerTRAX/SU is equipped with a very powerful biometric engine capable of identifying 1:N with 1000 users, and storing up to 9500 templates in various modes.
- With both versions, it is possible to specify a list of user codes for whom fingerprint is not requested. For each of them, it is possible to specify card reading or manual entering.
- FingerTRAX/ST has the possibility of specifying a random probability for fingerprint verification request. It can be useful to speed up operations on peak time, when group of users want to clock-in/out, and still the deterrent of true identity is needed.

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HW SPECIFICATIONS

<p>Fingerprint sensor</p> <p>☛ as the sensor is subject to wear and user's negligence, it is covered by 6 months limited warranty.</p>	<p>Sensor: UPEK TCS1 CMOS capacitive effect pixel-sensing technology, high ESD 15KV protection, wide area: 18x12.8 mm, resolution: 256x360 pixels (508 dpi).</p>
<p>Biometric engine</p>	<p>FingerTRAX/ST: (models p/n 929.nn6.3x) sensor embedded UPEK engine for 1:1 user verification only. Templates are stored on TRAX file-system space. Templates size may vary, average from 200 to 500bytes.</p> <p>FingerTRAX/SU: (models p/n 929.nn6.5x) suprema SFM30XX engine with 4MB memory. 1:N identification and 1:1 user verification. Templates are stored within the reader engine. Template size is fixed at about 400bytes.</p>
<p>Internal reader options</p> <p>☛ no internal reader version available on request for both card types</p>	<p>proximity readers</p> <ul style="list-style-type: none"> RFID 125 KHz reader for 64 bit read only, EM4102 compatible tags. RFID LEGIC® reader for advant ISO 15693 & 14443A, and "prime" multiapplication cards. RFID 13.56MHz reader, for MIFARE®, ISO 14443A/B and ISO15693 cards (UID only). RFID HID for read-only 125KHz HID 26/37 bit cards (H10301, H10304, H10320). With R/W module for MIFARE® or LEGIC® advant cards on request. <p>card swipe readers</p> <ul style="list-style-type: none"> magnetic reader TK2 ISO (further versions on request). IR barcode reader (decoder: see external reader).
<p>Console</p>	<ul style="list-style-type: none"> 128x64 graphic, superTwist white led backlight, up to 4 fonts on the screen at the same time. Up to 25X6 text rows, icon bitmaps support. 20 keys membrane keypad with function keys. Single tone acoustic signal.
<p>Communication ports</p>	<ul style="list-style-type: none"> Mod a. NET92: RS485 with TMC protocol on extractable screw block. (models p/n 929.046.yx) Mod b. RS232 optoisolated 1200, 2400 or 9600 Baud, on extractable screw block. (models p/n 929.146.yx) Mod c. with integrated PSTN modem (verify availability). (models p/n 929.246.yx) Mod d. with GSM integrated modem (verify availability). (models p/n 929.076.yx) <p>All models: Ethernet 10BaseT/UDP-IP. POE (Power over Ethernet) compatibility. Versions with integrated modem, PSTN or GSM support PoE Type B only.</p>
<p>Input/Output</p>	<ul style="list-style-type: none"> Input: 1 digital (optocoupled). Output: 1 relay 2A 60V - optional up to 4 Terelays.
<p>External reader</p>	<ul style="list-style-type: none"> Barcode wand or barcode I.R.scanner or VLD (EAN, I2/5, C39, C128, UPC EAN 128). Magnetic ISO track 2. Proximity, all types with magstripe reader emulation output (Clock&Data signals).
<p>Memory</p>	<p>512KB SRAM for File System, 256KB Flash for O.S. and reloadable FW, 32KB Bootloader.</p>
<p>Power supply</p>	<ul style="list-style-type: none"> 10 to 52 Vdc (vers PoE Type A&B), 100-400 mA at 12 Vdc (depending on versions). 9 to 36 Vdc (vers PoE Type B), 100-400 mA at 12 Vdc (GSM and PSTM modem versions).
<p>Battery</p>	<ul style="list-style-type: none"> Backup battery: 550 mAh. RF 125KHz reader average consumption: 170 mA resulting in about 3 hours autonomy.
<p>Physical Characteristics</p>	<p>Size: 120x200x100 mm (LxHxW) - Mass: 740 g - 940 g. - ABS casing, VO</p>
<p>Working environment</p>	<ul style="list-style-type: none"> Temperatures: when functioning: -10°C +50°C (14°F 122 F°); in storage: -20°C +70°C (-4°F 158°F). Humidity: from 0° to 95% non condensing.

- All the usual functions of TRAX+G are available: **time zone check, programmed access criteria, use of PINs, checking inputs and piloting relays, transactions recording**, etc., allowing for an access control system with a high security level.
- FingerTRAX/ST keeps templates stored in an **archive present on the file system**. Two templates are associated with each single user code. Remote shell commands allow custom applications running on a PC to **download the fingerprint templates archive, and then reload on other units**, without repeating the enrollment process of all users on different TRAX's.
- The user's template can be stored on a MIFARE® or LEGIC® card** (TRAX+G/ST only at the moment).
- Each fingerprint template size can vary**, with about 300 bytes as average.
- FingerTRAX/ST verification time: 1-2 sec. FingerTRAX/SU Identification time is configurable.
- FingerTRAX/ST supported applications: **up to 1200 users in 1:1 verification mode** with one fingerprint per user. FingerTRAX/SU supported applications: **up to 4500 users** in verification mode.
- FingerTRAX/ST has the possibility of a type of **online verification** using templates from a database stored on a PC. In this case, the maximum number of users is only limited to the maximum value represented by the number of digits used for the user's code. The user fingerprint verification is always performed moving the template to be verified into the fingerprint reader engine of TRAX.
- The user code length is a parameter and can vary from a minimum of 2 to a maximum of 11 digits.
- Most of the **managing functions**, like enrolling new users, deleting old ones, are performed from the FingerTRAX+G console, within the fingerprint manager operator menu.

CARD READERS

"Read only" versions: with Barcode, Magnetic stripe and two proximity models to read the codes of the following proximity cards:

- 125 KHz EM4102 compatible;
- 125 KHz HID.

Read & Write 13.56MHz ISO1443+ISO15693 proximity. These are also called the **MIFARE® FingerTRAX + G/ST** versions. These versions can work like read-only versions getting the user code to be verified from any ISO standard proximity tag, and also use MIFARE® ISO 14443A cards to store the fingerprint template of a user onto the card itself (Mifare classic 1K).

LEGIC® option: The FingerTRAX+G Legic advant version integrates the new RFID/advant LEGIC® module by TMC. An enhanced FW allows to store and manage fingerprint templates on 13.56MHz proximity cards (prime MIM1024 or **faster** ISO 14443A ATC2048/512 or ISO 15693 ATC1024). Thanks to this option, an unlimited number of users per terminal can be managed.

Similarly to the Mifare versions, the FingerTRAX+G LEGIC version supports a set of new commands to freely read and write on the LEGIC card segments. This version enables also the user to carry out automatic procedures for increasing or decreasing the stored values. These commands can work both on-line and off-line (script PROC).