RFID ELECTRONIC CABLE & PIPE MARKING SYSTEM

Intelligent system for permanent marking and tracing of your underground facilities.
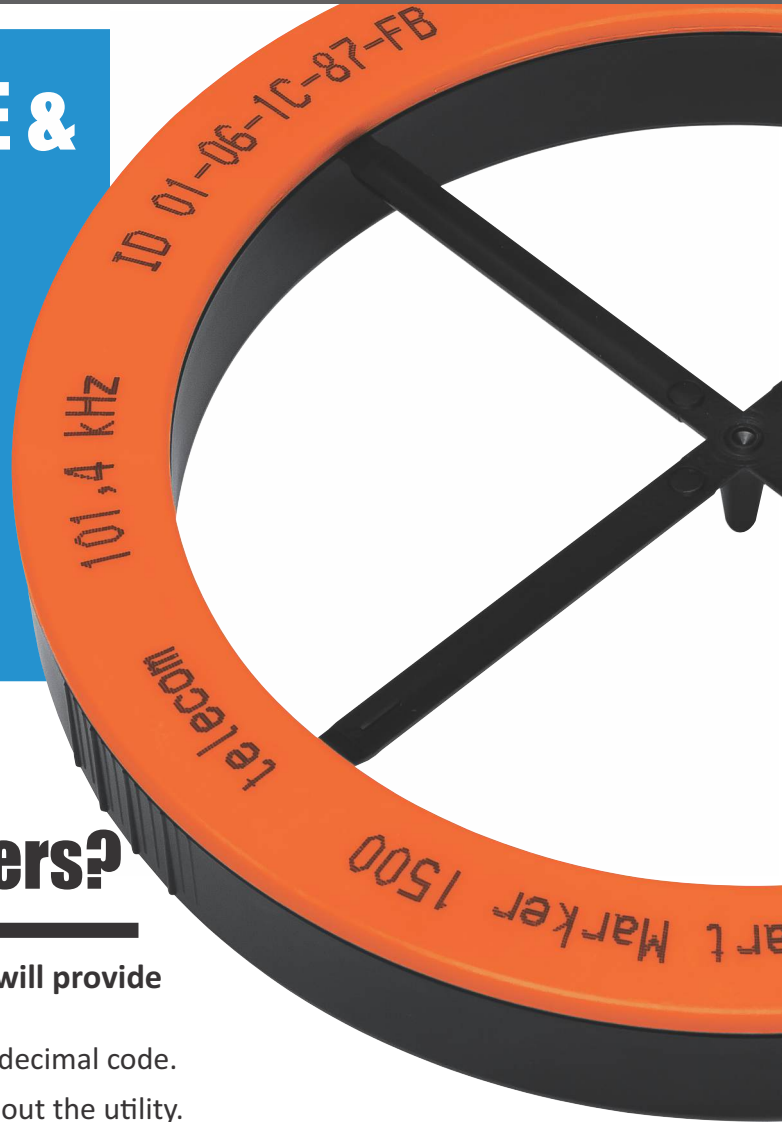
It consists of the following parts:

- Smart RFID Marker SM1500
- Smart Marker locator SML (with Built in GPS)
- Marker Database Software

Why choose Stanlay Komplex Smart RFID Markers?

**When installed with your pipes or cables, the system will provide the following benefits:**

- Each marker is "Unique" with its own RF-ID 10 digit hexadecimal code.
- "Lifetime marking" of Buried utilities with information about the utility.
- Lifetime storage of data inside the Smart Marker - 50 years.
- Creation of user text information for each Smart Marker.
- Inbuilt GPS module inside each Smart Marker Locator allows GPS Coordinates of each RFID marker to be logged.
- Acoustic GPS navigation (of buried markers) allows navigation back to "Specific" RFID markers.
- Mapping of your Smart Markers in Google maps.
- Detailed archiving & managing of data about your underground networks in unique Marker Database Software.
- Archiving of the data in Cloud database. Share - later - if you require with partners.

ID 01-06-1C-87-FB

101,4 kHz

telecom

art Marker 1500

Quality In Construction. Delivered.

SMART RFID MARKER SM1500

STANLAY™

The Smart Marker SM1500 is an **electronic passive marker** with **built in RFID** chip with a **unique 10 digit hexadecimal ID** number ensuring that **every RFID marker** buried with a cable or pipe **is unique**. It allows permanent marking of buried pipes or cables along it's route or specific selected points under the ground. Smart Marker SM 1500 provides the most accurate method to precisely mark and locate your buried facilities such as:

- Optical fiber telecom cables
- Power cables
- Water pipelines
- Sewage pipelines
- Gas Pipelines
- CATV
- Non drinkable water pipelines

- Manholes
- Buried Valves
- Hazardous Areas
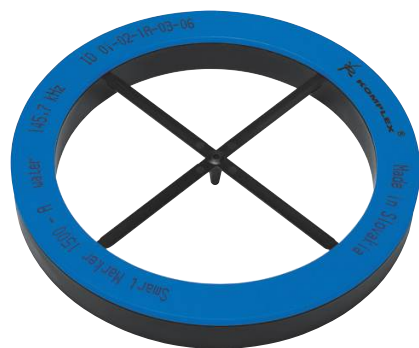
Smart Marker SM1500 is buried "over" the buried utility or key facilities during construction or maintenance. The pre-programmed unique serial number of each Smart Marker SM1500 provides precise and clear marking of the route or each important point of the buried facility (joints, connections, change of direction etc.). GPS coordinates can be logged for each unique RFID marker using the Smart Marker SM1500 & then located easily, fast and accurately by use of the built in GPS module of the SML locator.

Data about each Smart Marker SM1500 being installed can be logged including:

- **GPS** coordinates of the marker location
- **User text description of marker** (Attribute definition) eg: Joint Pit, Cable Turning, Cable Joint, Cable Type etc.
- 10 digit serial number of marker
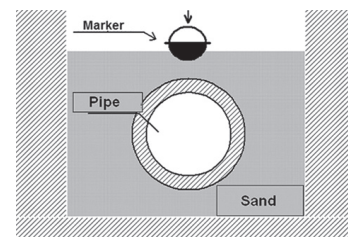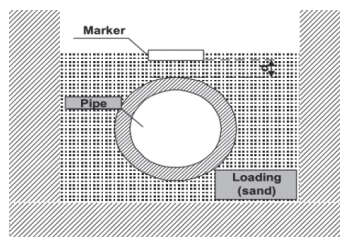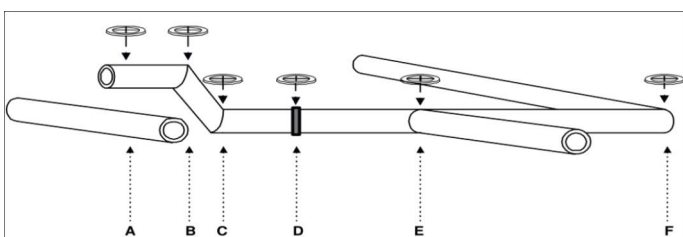
Technical Specification Of Smart RFID Marker SM 1500

Operating frequency (kHz)	83.0, 101.1, 121.6, 134.0, 145.7, 169.8
Material of cover	High Density PS
Dimensions	Diameter x height 225 x 28 mm
Weight	max. 300 g
Identification number ID	10 digits in hexadecimal code
Marker read range	1,5 m (4,9 ft)
Operating temperature	-20 to +60 °C
Lifetime	50 years

TYPES OF OPERATING FREQUENCY

Operating frequency	Type of device	Color of marker			Type of Marker Locator
83,0 kHz	Gas pipelines	Yellow			SML G
101,4 kHz	Optical cables	Orange			SML T
121,6 kHz	Sewage pipelines	Green			SML S
145,7 kHz	Water pipelines	Blue			SML W
134,0 kHz, 169,8 kHz	Energetics cables	Red			SML E

SMART RFID MARKER LOCATOR SML

SML is a portable RFID smart marker locator with built in GPS designed for:

a. Logging RFID 10 digit code, attributes & GPS locator of markers being installed.
b. Fast localization & detection of buried markers.

The SML automatically stores all data about each marker in to the locator's internal memory when markers are being installed including GPS coordinates of the RFID marker. The virtual keyboard enables the user to type **useful** text information about the utility or location for which marker is being used allowing a clear & precise data base of utility information to be developed.

This data can be downloaded to the Marker Database Software. During detection the SML guides the operator using GPS to the marker/s. The SML also provides depth measurement. Stores data of upto 8000 markers.

| Technical Specification Of Smart RFID Marker Locator - Model SML	
Operating frequency	SML G1 – 83,0 kHz
	SML T1 – 101,4 kHz
	SML S1 – 121,6 kHz
	SML E1 – 134,0 kHz, 169,8 kHz
	SML W1 – 145,7 kHz
GPS navigation	YES, inbuilt GPS module
Depth measurement	Yes
Marker depth measurement accuracy	+/- 10 % up to marker specification
Memory capacity (Rewritable memory)	8000 marker records
Display type	Backlight LCD screen, 4 x 20 digits
Communication with PC	USB cable
Dimensions (height x width x depth)	225 x 240 x 210 mm
Weight of device with antenna	Max. 4 kg
Battery life	45 working hours
Primary battery cells, voltage 1,5 V	10 pcs.
Operating temperature	-20 ºC to +60 ºC
Storage temperature	-20 ºC to +60 ºC

Software Marker Database

Marker Database software is a unique software for database management of installed markers. It provides convenience to manage data about your buried facilities including display of installed maker locations on Google maps & easy access to marker attribute information (& therefore information of your utilities).

Advantages:

- Edit data about your markers and underground facilities.
- Manage your data about markers and underground facilities.
- Share your data with your partners all over the world by using our safe web Cloud Database service.
- Export your data to SHP format for GIS systems.
- Export your markers and network information in Google Maps.
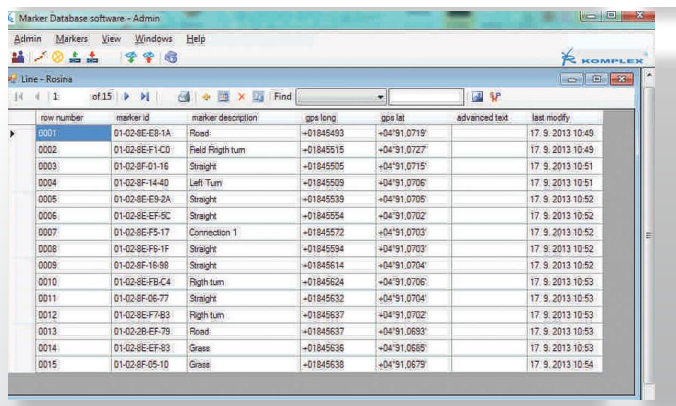
Google maps

ANALOG RFID CABLE OR PIPE MARKERS

Analog radiofrequency marker is a passive electronic marker for permanent marking of buried cable & pipe utility services.

It provides an economical & reliable method for permanent marking of utilities during installation.

Three types of Analog markers options are available:
• MARKER 2500 • Long MARKER • MAR 100-3D – ball marker

STANLAY ™

MARKER 2500: Flat Marker

Marker 2500 is designed for permanent marking of buried utility services with depth detection range of 1.8 m. The marker 2500 is one of the most widely used marker for marking of all types of underground devices & is available in 6 industry frequency options based on type of utility being permanently marked.

Long Marker is a higher depth flat Analog marker option with an increased reading range of up to 2.5 m.

Marker 2500 (Analog) Disc Markers	
Operating frequency (kHz)	83.0, 101.1, 121.6, 134.0, 145.7, 169.8
Material of cover	High Density PS
Dimensions	Diameter x height 225 x 28 mm
Weight	max. 300g
Identification number ID	NO
Marker read range	1,8 m (5,9 ft), Long marker model 2,5 m (8,2ft)
Operating temperature	-20 to +60 °C
Lifetime	50 years

MAR 100-3D (Analog) Ball Markers	
Operating frequency (kHz)	83.0, 101.1, 121.6, 134.0, 145.7, 169.8
Material of cover	PE
Dimensions	Diameter 130 mm
Weight	Max. 210 g (0,46lb)
Identification number ID	NO
Marker read range	1,2 m (3,9 ft)
Operating temperature	-20 to +60 °C
Lifetime	50 years

8890-MP Passive Utility Marker Locator

8890-MP Features

• **6 frequency** locate standard utility markers for Power, Telco, CATV, Water, Sewer, and Gas
• 3 sensitivity settings for finding deeply buried markers
• **Scan feature** highlights markers in the vicinity
• Backlit digital display for low-light reading
• **Provides** approximate **depth measurement.**
• Weather proof membrane buttons

8890-MP Specifications

Operating Frequency: 169.8 kHz (power), 145.7 kHz (water), 121.6 kHz (sewer), 101.4 kHz (telephone), 83.0 kHz (gas), 77.0 kHz (CATV)
Antenna Mode: Peak, pin-point peak, and null
Display Indicators: Backlit LCD bar graph, low battery, signal strength, mode indicators
Audio Indication: Variable pitch response
Power Source: Disposable: 6 "C" batteries
Battery Life: Continuous: 18 hours. 10 minute auto shut-off
Signal Strength: LCD bar graph, absolute signal strength readout
Gain Control: Toggle control for low, medium and high settings
Dynamic Range: 126 dB
Operating Temperature: -20º C to +55º C
Size: 84 cm x 9.5 cm x 24 cm
Weight: 2.2 kg

Locate these EMS Markers
● Power
● Telephone
● Cable
● Water
● Sewer
● Gas

MAR 100-3D

MAR 100-3D is ball Analog marker. It is an ideal solution for narrow excavations.
The biggest advantage of MAR 100-3D is the spherical characteristic of the electromagnetic field of this marker. Strong PE cover of the MAR 100-3D provides protection of the marker even in the extreme conditions. Two holders on the PE cover enable to fix MAR 100-3D to your underground device by tape.