## tetraedre, <br> THE COMPANY



## SWISS-MADE PROFESSIONAL IOT \& TELEMETRY SOLUTIONS

Founded in 1999 in Auvernier, Switzerland, Tetraedre is a swiss company specialising in the development and sale of remote data transmission solutions, particularly for battery powered applications. Tetraedre is active in various fields such as: hydrogeology, geotechnics, electricity, water \& gas related activities, waste management, energy efficiency, district heating,
and so on. Tetraedre has been present in the loT industry for more than 20 years thanks to the development of versatile and reliable telemetry devices. The main advantage of Tetraedre devices is that their power consumption is very low. This allows their battery to last for many years (up to 10 years) and to be self-sufficient in remote areas.

TETRAEDRE
TRMC-19 FAMILY


## DESCRIPTION

VERY VERSATILE 4G TELETRANSMITTER WITH MANY WIRED INTERFACES AND ALSO WMBUS (RADIO) AND LORA RECEPTION FEATURE. IT CAN BE EQUIPPED WITH SEVERAL EXTENSIONS BOARDS TO READ VARIOUS SYSTEMS, METERS AND PROBES.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU
- RS-232
- SCR CODER
- IEC1107
- IMPULSE INPUT
- DIGITAL INPUT
- 4-20 mA INPUT AND OUTPUT
- DIGITAL OUTPUTS
- RELAY OUTPUTS
- DLMS
- 0-5 V INPUT
- 0-10 V INPUT


## MEMORY

- 100'000 MEASUREMENTS
- REMOTE CONFIG UPDATE


## TRANSMISSION

- TETRAEDRE MODCOM SYSTEM
- GSM 2G-3G
- GSM 4G
- ETHERNET
- LORALIGHT COMPATIBILITY
- VARIOUS SIM PLANS AVAILABLE


## ENCLOSURE

- LENGTH $220 \mathrm{~mm} \times$ WIDTH 120 mm x HEIGHT 91 mm (WITHOUT ANTENNAS)


## POWER

- BATTERY POWERED (3.7 VDC/ 8 Ah)
- OPTIONAL BATTERY PACKS (16 Ah, 32 Ah)
- OPTIONAL EXTERNAL POWER SUPPLY $5-35 \mathrm{~V}$
- AUTONOMY: 3'000 CONNECTIONS (UP TO 10 YEARS AT 1 TRANSMISSION PER DAY WITH 8 Ah)


## EXTENSIONS

- MODULE-TPL (TPL-211)
- MODULE-ANALOG
- MODULE-24CS
- MODULE-CO2/RADON
- EXT-ANALOG (2 PORTS)
- EXT-485 / 422
- EXT-CORRGAZ
- EXT-4CS / 8CS
- EXT-3PULSE
- EXT-ATM
- EXT-CODERI / 2
- EXT-GPS
- EXT-ISCO
- EXT-EXTENSO2 / 4


## VERSIONS

- TRMC-19-F (FULL FEATURES)
- TRMC-19-RF (RADIO ONLY)
- TRMC-19-LCG1 (CORRGAZ ONLY), WITHOUT EXT-CORRGAZ
- TRMC-19-F-EXTENSO2 (FOR EXTENSOMETER), WITHOUT EXTEXTENSO2


## USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS


## DATALOGGERS



## MONITOR \& RECORD YOUR DATA

Our range of dataloggers is varied and allows you to find a suitable solution for all applications and requirements. with the option of being powered by long-life batteries (up to 10 years), our dataloggers are designed for ultra remote field applications. Our devices are very versatile as they
can receive data from many types of meter, sensor or probe and record it in large quantities. various communication interfaces can be integrated with our solutions in order to send the data punctually. Remote configuration and updates allow efficient project monitoring and follow-up.

## DATALOGGERS

## LIST OF PRODUCTS



TRMC-19
THE ULTIMATE DATALOGGER


TRMC-7
THE ESSENTIAL DATALOGGER


TRMC-5
THE DATALOGGER FOR SCIENTIFIC USE


TRMC-30
THE HIGHRISE
COLLECTIVE
DATALOGGER


TRMC-6
THE WATER LEVEL OR PULSE DATALOGGER


## TRMC-1

THE SINGLE-INPUT BATTERY-POWERED DATALOGGER

## EXTENSIONS

## EXTENSION BOARDS

AND MODULES FOR
TRMC


SCIENCE


THE DATALOGGER FOR SCIENTIFIC USE BATTERY-POWERED WITH INTEGRATED 2G-3G-4G

- RUGGED HARDWARE TO CONNECT ANY SAMPLER, FLOWMETER, FLUORIMETER OR PROBE
- BATTERY POWERED (LOW POWER CONSUMPTION, 10+ YEAR LIFECYCLE)
- BEST-IN-CLASS FOR ULTRA REMOTE FIELD APPLICATIONS
- REMOTE TRANSMISSION OF SOLITAX TURBIDITY SENSORS
- OVER-THE-AIR CONFIG \& UPDATE
- EXPANDABLE, CUSTOMIZABLE


## DESCRIPTION

THE TRMC-5 WAS SPECIALLY DESIGNED FOR SCIENTIFIC AND INDUSTRIAL APPLICATIONS. IT IS THE IDEAL TOOL FOR A CONTINUOUS OR TEMPORARY MONITORING OF SPRINGS, RIVERS OR FACILITIES.THE TRMC-5 POSSESSES THE CHARACTERISTICS WHICH WILL ALLOW YOU TO SET UP A SUCCESSFUL, AFFORDABLE AND OPEN NETWORK OF TELEMETRY.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU
- RS-232
- SCR CODER
- IMPULSE INPUT
- DIGITAL INPUT
- 4-20 mA INPUT AND OUTPUT
- DIGITAL OUTPUTS
- RELAY OUTPUTS
- 0-5 V INPUT
- 0-10 V INPUT


## MEMORY

- 100'000 MEASUREMENTS
- REmOTE CONFIG update

TRANSMISSION

- TETRAEDRE MODCOM SYSTEM :
- GSM 2G-3G
- GSM 4G
- ETHERNET
- LORALIGHT COMPATIBILITY
- VARIOUS SIM PLANS AVAILABLE


## ENCLOSURE

- LENGTH 260 mm x WIDTH 160 mm x HEIGHT 91 mm (WITHOUT ANTENNAS)


## POWER

- BATTERY POWERED (12 VDC/ 7 Ah)
- OPTIONAL BATTERY PACKS (24 Ah)
- OPTIONAL EXTERNAL POWER SUPPLY $5-35 \mathrm{~V}$
- AUTONOMY: 3'000 CONNECTIONS (UP TO 10 YEARS AT 1 TRANSMISSION PER DAY WITH 7 Ah)


## EXTENSIONS

- MODULE-TPL (TPL-211)
- MODULE-ANALOG
- MODULE-CO2/RADON
- EXT-ANALOG (2 PORTS)
- EXT-485/422
- EXT-4CS / 8CS
- EXT-GPS
- EXT-ISCO
- EXT-EXTENSO2 / 4


## USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY

TETRAEDRE
TRMC-6 FAMILY


SCIENCE
ENERGY
INDUSTRY

$\qquad$

THE WATER LEVEL OR PULSE DATALOGGER SINGLE PURPOSE, STRAIGHT TO THE POINT

- DEDICATED TO COLLECTING, LOGGING AND TRANSMITTING WATER LEVEL OR PULSE
- BATTERY POWERED (LOW POWER CONSUMPTION, 10+ YEAR LIFECYCLE)
- BEST-IN-CLASS FOR ULTRA REMOTE FIELD APPLICATIONS
- REMOTE OR OVER-THE-AIR CONFIG \& UPDATE
- CUSTOMIZABLE


## DESCRIPTION

THE TRMC-6 IS THE RELIABLE, AFFORDABLE AND EASY-TO-INSTALL SOLUTION TO MONITOR A WATER LEVEL OR READ PULSE METERS. THANKS TO ITS SIZE AND ROBUSTNESS, THE TRMC-6-LEVEL CAN BE USED IN ANY KIND OF ENVIRONMENT.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU
- IMPULSE INPUT


## MEMORY

- 100'000 MEASUREMENTS
- REMOTE CONFIG UPDATE

TRANSMISSION

- AVAILABLE:
- GSM 2G-3G
- GSM 4G
- ETHERNET
- VARIOUS SIM PLANS AVAILABLE


## VERSIONS

- TRMC-6-LEVEL (RS-485 MODBUS RTU)
- TRMC-6-PULSE (PULSE ONLY)


## USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY
- PISICULTURE
- ENERGY
- WATER
- INDUSTRY
- MONITORING
- ALARM SYSTEMS


## ENCLOSURE

- LENGTH 122 mm x WIDTH 120 mm x HEIGHT 91 mm (WITHOUT ANTENNAS)


## POWER

- BATTERY POWERED (3.7 VDC/ 8 Ah)
- OPTIONAL BATTERY PACKS (16 Ah, 32 Ah)
- OPTIONAL EXTERNAL POWER SUPPLY 5-35V
- AUTONOMY: 3'000 CONNECTIONS (UP TO 10 YEARS AT 1 TRANSMISSION PER DAY WITH 8 Ah)

- READS PULSE OR MODBUS UTILITIES METERS, LOGS AND TRANSMITS
- BATTERY POWERED (LOW POWER CONSUMPTION, 10+ YEAR LIFECYCLE)
- BEST-IN-CLASS FOR ULTRA REMOTE FIELD APPLICATIONS
- REMOTE OR OVER-THE-AIR CONFIG \& UPDATE
- CUSTOMIZABLE


## DESCRIPTION

THE TRMC-7 IS A MULTI-PURPOSE DATA LOGGER, CAPABLE OF MEASURING VARIOUS TYPES OF SENSORS. THANKS TO HIS HIGH-ADAPTIBILITY, THE TRMC-7 CAN FOR EXAMPLE reads water-related sensors such as flow or water level probes.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU
- WIRED M-BUS MASTER
- IMPULSE INPUT
- DIGITAL INPUT


## MEMORY

- 100'000 MEASUREMENTS
- REMOTE CONFIG UPDATE

TRANSMISSION

- TETRAEDRE MODCOM SYSTEM :
- GSM 2G-3G
- GSM 4G
- ETHERNET
- VARIOUS SIM PLANS AVAILABLE


## ENCLOSURE

- LENGTH 160 mm x WIDTH $160 \mathrm{~mm} x$ HEIGHT 91 mm (WITHOUT ANTENNAS)


## POWER

- BATTERY POWERED (3.7 VDC/ 8 Ah)
- OPTIONAL BATTERY PACKS (16 Ah, 32 Ah)
- OPTIONAL EXTERNAL POWER SUPPLY 5-35V
- AUTONOMY: 3'000 CONNECTIONS (UP TO 10 YEARS AT 1 TRANSMISSION PER DAY WITH 8 Ah)

USE-CASES

- SCIENCE
- GEOLOGY
- hYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS



## THE SINGLE-INPUT BATTERY-POWERED DATALOGGER COST-EFFECTIVE IOT DEVICE FOR SMART METERING

- READS VARIOUS UTIIITIES METERS, LOGS AND TRANSMITS
- BATTERY POWERED (LOW POWER CONSUMPTION, 10+ YEAR LIFECYCLE)
- BEST-IN-CLASS FOR ULTRA REMOTE FIELD APPLICATIONS
- REMOTE OR OVER-THE-AIR CONFIG \& UPDATE
- CUSTOMIZABLE


## DESCRIPTION

THE TRMC-1 IS A SIMPLE BATTERY OPERATED RECORDER-TRANSMITTER DESIGNED TO REMOTELY READ A UTILITY METER. THE TRMC-1 PROVIDES THE BEST IOT SOLUTION TO BUILD COST-EFFECTIVE AND RELIABLE NETWORKS OF SMART METERING.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU
- RS-232 OPTICAL IR HEAD
- RS-232
- SCR CODER
- IEC1107
- IMPULSE INPUT
- DIGITAL INPUT
- TEMPERATURE SENSOR
- M-BUS
- DLMS


## MEMORY

- 100'000 MEASUREMENTS
- REMOTE CONFIG UPDATE

TRANSMISSION

- AVAILABLE:
- GSM 2G-3G
- GSM 4G
- ETHERNET
- VARIOUS SIM PLANS AVAILABLE


## ENCLOSURE

- LENGTH $197 \mathrm{~mm} \times$ WIDTH 90 mm x HEIGHT 62 mm (WITHOUT ANTENNAS)


## POWER

- BATTERY POWERED (3.7 VDC/ 8 Ah )
- OPTIONAL BATTERY PACKS (16 Ah, 32 Ah)
- OPTIONAL EXTERNAL POWER SUPPLY 5-35V
- AUTONOMY: 3'000 CONNECTIONS (UP TO 10 YEARS AT 1 TRANSMISSION PER DAY WITH 8 Ah)


## VERSIONS

- TRMC-1-SCR-CODER
- TRMC-1-MBUS
- TRMC-1-ELEC, SANS TÊTE OPTIQUE OPTIC-232
- TRMC-1-MODBUS
- TRMC-1-PULSE
- TRMC-1-TEMP


## USE-CASES

- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS

- READS \& INDEXES MULTIPLE UTIIITIES METERS TO STREAMLINE BILLING PROCESS
- BATTERY POWERED (LOW POWER CONSUMPTION, 10+ YEAR LIFECYCLE)
- ETHERNET CONNECTIVITY
- REMOTE OR OVER-THE-AIR CONFIG \& UPDATE
- EXPANDABLE, CUSTOMIZABLE


## DESCRIPTION

THE TRMC-30 IS THE IDEAL TOOL TO MAKE THE REMOTE READING OF VARIOUS METERS. IT IS ALSO POSSIBLE TO REMOTELY VISUALIZE THE WHOLE ENERGY CONSUMPTION OF A BUILDING AND ESTABLISH THE INVOICING.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU
- RS-232
- SCR CODER
- IEC1107
- IMPULSE INPUT
- DIGITAL INPUT
- 4-20 mA INPUT AND OUTPUT
- DIGITAL OUTPUTS
- RELAY OUTPUTS
- DLMS
- 0-5 V INPUT
- 0-10 V INPUT


## MEMORY

- 100'000 MEASUREMENTS
- REMOTE CONFIG UPDATE


## TRANSMISSION

- ETHERNET


## ENCLOSURE

- LENGTH 230 mm x WIDTH 190 mm x HEIGHT 100 mm (WITHOUT ANTENNAS)


## POWER

- EXTERNAL POWER SUPPLY 230 VAC OR 5 VDC


## EXTENSIONS

- MODULE-TPL (TPL-211)
- MODULE-ANALOG
- MODULE-24CS
- MODULE-CO2/RADON
- EXT-ANALOG (2 PORTS)
- EXT-485 / 422
- EXT-CORRGAZ
- EXT-4CS / 8CS
- EXT-3PULSE
- EXT-ATM
- EXT-CODERI / 2
- EXT-GPS
- EXT-ISCO
- EXT-EXTENSO2/4


## USE-CASES

- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS



## EXTENSION BOARDS AND MODULES FOR TRMC CUSTOMIZE YOUR TRMC TO YOUR NEEDS

- EXPAND YOUR TRMC
- VARIOUS INTERFACES
- EASY, PLUG AND PLAY
- MAXIMUM FLEXIBILITY
- CUSTOMIZABLE


## DESCRIPTION

MANY EXTENSIONS CAN BE CONNECTED TO A TRMC IN ORDER TO PROVIDE ADDITIONAL FEATURES.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU MASTER
- RS-485 MODBUS RTU SLAVE
- TCP/IP MODBUS MASTER
- TCP/IP MODBUS SLAVE
- RS-422
- RS-232
- SCR CODER
- IEC1107
- 4-20 mA INPUT AND OUTPUT
- RELAY OUTPUTS
- 0-5 V INPUT
- 0-10 V INPUT
- M-BUS MASTER
- M-BUS SLAVE
- GPS
- ATMOSPHERIC PRESSURE
- RADON
- CO2


## EXTENSIONS

- MODULE-TPL (TPL-211)
- MODULE-ANALOG
- MODULE-24CS
- MODULE-CO2/RADON
- EXT-ANALOG (2 PORTS)
- EXT-485 / 422
- EXT-CORRGAZ
- EXT-4CS / 8CS
- EXT-3PULSE
- EXT-ATM
- EXT-CODERI / 2
- EXT-GPS
- EXT-ISCO
- EXT-EXTENSO2 / 4


## POWER

- POWERED BY THE TRMC


## USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS


## TRANSMISSION



SEND YOUR DATA HOW, WHERE AND WHEN YOU WANT

Thanks to our wide range of transmission solutions, each of your applications will find an ideal and adapted solution. Whether you want to transmit over the mobile network with our integrated communication module or need to transmit via other communication
protocols and technologies, we will provide a suitable solution for your application. Depending on the environment and technical constraints, the solution proposed will always be aimed at optimising resources and providing excellent transmission quality.

## transmission LIST OF PRODUCTS



MODCOMS CUSTOMIZE YOUR TRMC


THE LORA/WMBUS RECEIVER


THE LORA/WMBUS TRANSMITTER


TRP-3
THE TEMPERATURE AND HUMIDITY TRANSMITTER


THE CHAINABLE TRANSMISSION SOLUTION


TCM-4
THE CONVERTER


## CUSTOMIZE YOUR TRMC

CHOOSE YOUR ONBOARD TRANSMISSION TECHNOLOGY

- VARIOUS TRANSMISSION TECHNOLOGIES AVAILABLE
- EASY, PLUG AND PLAY
- MAXIMUM FLEXIBILITY


## DESCRIPTION

VERY VERSATILE 4G TELETRANSMITTER WITH MANY WIRED INTERFACES AND ALSO WMBUS (RADIO) AND LORA RECEPTION FEATURE. IT CAN BE EQUIPPED WITH SEVERAL EXTENSIONS BOARDS TO READ VARIOUS SYSTEMS, METERS AND PROBES.

## TRANSMISSION

- TETRAEDRE MODCOM SYSTEM
- GSM 2G-3G
- GSM 4G
- ETHERNET
- VARIOUS SIM PLANS AVAILABLE


## VERSIONS

- MODCOM-2G-3G
- MODCOM-2G-3G-4G
- MODCOM-4G
- MODCOM-ETHERNET


## USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS


## DESCRIPTION

THE TRP-11-LORA IS A RADIO MODULE CAPABLE OF READING THE DATA OF METERS, THANKS TO ITS WIRED INTERFACE M-BUS, IT SENDS THEN A PART OF THE MESSAGE READ ACCORDING TO THE LORAWAN PROTOCOL.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU
- RS-232
- SCR CODER
- IEC1107
- IMPULSE INPUT
- DIGITAL INPUT
- 4-20 mA INPUT AND OUTPUT
- DIGITAL OUTPUTS
- DLMS
- 0-5 V INPUT
- 0-10 V INPUT


## TRANSMISSION

- LORA
- LORALIGHT COMPATIBILITY
- WIRELESS M-BUS 868 MHz (WMBUS)


## ENCLOSURE

- LENGTH $153 \mathrm{~mm} \times$ WIDTH $90 \mathrm{~mm} \times$ HEIGHT 60 mm (WITHOUT ANTENNAS)


## POWER

- BATTERY POWERED (3.7 VDC/ 19 Ah)
- OPTIONAL EXTERNAL POWER SUPPLY $5-35 \mathrm{~V}$
- AUTONOMY: UP TO 25 YEARS WITH 1 TRANSMISSION PER DAY


## VERSIONS

- TRP-11-MBUS THE LORA/WMBUS TRANSMITTER, WITHOUT EPS
- TRP-11-PULSE
- TRP-11-FULL
- TRP-11-232, WITHOUT EPS
- TRP-11-MODBUS
- TRP-11-CS
- TRP-11-SCR CODER
- TRP-11-420MA
- TRP-11-010V
- TRP-11-TEMPPROBES 1
- TRP-11-TEMPPROBES2
- TRP-11-SOILMOISTURE


## USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS

- TRMC REPEATER MODULES
- DAISY-CHAIN SEVERAL TRANSMISSION SOLUTIONS (GSM, LORA, WIRELESS MBUS)
- COVER VIRTUALLY ANY SPOT WITH WIRELESS BRIDGES
- TO BE USED IN COMBINATION WITH TRMC-19 OR TRMC-5


## DESCRIPTION

THE TRR-868 IS THE IDEAL WIRELESSE-MBUS (WMBUS) REPEATER. WHEN YOUR METER IS LOCATED IN THE SECOND OR THIRD FLOOR, THE TRR-868 LORA REPEATER ALLOW YOU TO INCREASE THE RADIO RANGE AND COLLECT IT WITHOUT EXPENSIVE INSTALLATION OF EXTENSION CABLES. INTERNAL AND REPLACEABLE BATTERY POWER.

## TRANSMISSION

- LORA
- LORALIGHT COMPATIBILITY
- WIRELESS M-BUS 868 MHz (WMBUS)


## ENCLOSURE

- LENGTH 153 mm x WIDTH 90 mm x HEIGHT 60 mm (WITHOUT ANTENNAS)


## POWER

- BATTERY POWERED (3.7 VDC/ 19 Ah)
- OPTIONAL EXTERNAL POWER SUPPLY $5-35 \mathrm{~V}$


## VERSIONS

- TRR-868-WMBUS THE WMBUS-TOWMBUS REPEATER
- TRR-868-WMBUS4 (4 DEVICES)
- TRR-868-LORALIGHT-TO-LORA REPEATER (1 DEVICE)

USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- solar
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS

- RECEIVE WMBUS OR LORALIGHT MESSAGE
- GENERATE DIGITAL OR ANALOGIC SIGNALS
- COMPACT
- LIGHTWEIGHT
- COST EFFECTIVE


## DESCRIPTION

THE TRX-11 IS THE PERFECT BRIDGE FOR DIGITAL AND ANALOGIC SIGNALS. ONE MODULE IS CONNECTED TO A METER OR A SENSOR AND SENDS THE VALUE PER RADIO WMbUS OR LORALIGHT TO A RECEIVER WHICH GENERATE THE SAME DIGITAL OR ANALOGIC SIGNAL.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU
- mbus SLAVE
- Impulse output
- $4-20 \mathrm{~mA}$ OUTPUT
- DIGITAL OUTPUTS
- RELAY OUTPUTS


## TRANSMISSION

- LORA
- LORALIGHT COMPATIBILITY
- WIRELESS M-BUS 868 MHz (WMBUS)


## ENCLOSURE

- LENGTH 153 mm x WIDTH 90 mm x HEIGHT 60 mm (WITHOUT ANTENNAS)


## POWER

- EXTERNAL POWER SUPPLY 5-35V


## VERSIONS

- TRX-11-MBUS
- TRX-11-PULSE
- TRX-11-MODBUS
- TRX-11-420MA
- TRX-11-010V

USE-CASES

- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS



## THE TEMPERATURE AND HUMIDITY TRANSMITTER IDEAL INDOOR AIR MONITORING

- BATTERY POWERED
- THE BATTER CAN BE REPLACED BY THE CUSTOMER
- LOW POWER CONSUMPTION
- TEMPERATURE AND HUMIDITY MONITORING
- HIGH ACCURACY
- WMBUS OR LORA TRANSMISSION


## DESCRIPTION

THE TRP-3 IS THE IDEAL TOOL TO REMOTELY MONITOR THE TEMPERATURE AND HUMIDITY OF A PRODUCTION SITE OR A STORAGE ROOM. COMPACT AND BATTERY POWERED, IT ALLOWS YOU TO BE INSTALLED NEARLY ANYWHERE. THE DATA ARE SENT THROUGH WIRELESS M-BUS (WMbUS) OR LORA AND CAN BE COLLECTED BY A TRMC OR ANY LORAWAN GATEWAY.

## TRANSMISSION

- LORA
- LORALIGHT COMPATIBILITY
- WIRELESS M-BUS 868 MHz (WMBUS)


## ENCLOSURE

- LENGTH 67 mm x WIDTH 125 mm x HEIGHT 31 mm (WITHOUT ANTENNAS)


## POWER

- BATTERY POWERED (3.7 VDC/ 2.4 Ah)
- AUTONOMY: 5 YEARS


## VERSIONS

- TRP-3-TEMPHUM
- TRP-3-OXYGEN
- TRP-3-ATHMOS

USE-CASES

- science
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS



## THE CONVERTER

CONVERT SEVERAL PROTOCOLS TO OTHER PROTOCOLS

- VARIOUS PROTOCOLS AND INTERFACES AVAILABLE
- COMPACT
- COST EFFECTIVE


## DESCRIPTION

TCM-4 MODULES CAN CONVERT A DIGITAL SIGNAL TO ANOTHER TYPE OF SIGNAL. FOR example it can read a modbus meter and convert the value to pulses. various PROTOCOLS AND SIGNALS AVAILABLE.

INPUTS - OUTPUTS

- RS-485 MODBUS RTU INPUT
- RS-232 INPUT
- P1 INPUT
- 4-20 MA OUTPUT
- PULSE OUTPUT
- MBUS SLAVE


## ENCLOSURE

- LENGTH $106 \mathrm{~mm} \times$ WIDTH $90 \mathrm{~mm} \times$ HEIGHT 32 mm (WITHOUT ANTENNAS)


## POWER

- EXTERNAL POWER SUPPLY + 24V


## VERSIONS

- TCM-4-MODBUS-TO-PULSE CONVERTER
- TCM-4-MODBUS-TO-420 CONVERTER
- TCM-4-232-TO-MBUS CONVERTER
- TCM-4-P1-TO-MBUS CONVERTER


## USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- solar
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS
- RADIATIONS


## SENSORS



## MEASURE AND DETECT IN ANY CONDITIONS

The probes and sensors we offer in our solutions are all accurate, reliable and of high quality. Depending on your needs, adopt solutions that are low-power, certified, resistant or even capable
of simplifying your billing system. high precision scientific tools such as fluorometers are also available in our offer to be used in combination with dataloggers.

## SENSORS

## LIST OF PRODUGTS



WATER
LEVEL AND TEMPERATURE


AIR AND WATER
TEMPERATURE


GAS
TEMPERATURE


RAIN
THE PLUVIOMETER


MULTI-PARAMETERS
water level, temperature AND CONDUCTIVITY, PH, 02, REDOX, TDGP

$\mathrm{H}_{2} \mathrm{~S}$


WATER AND
GAS PRESSURE


FLUOROMETER
FOR RIVERS


WATER TURBIDITY

$\mathrm{CH}_{4}$
METHANE NATURAL GAS


EVC
THE GAS CORRECTOR


FLUOROMETER FOR BORE HOLES


- DIFFERENT TEMPERATURE SENSORS AND PROBES
- AIR AND LIQUIDS
- 2G/3G/4G TRANSMISSION VIA TRMC


## DESCRIPTION

THE TTES-1 IS A DIGITAL WATER OR AIR TEMPERATURE SENSOR WITH HIGH PRECISION. ITS STAINLESS STEEL HOUSING IS SUITABLE FOR LONG TERM APPLICATIONS.

INTERFACE

- DIGITAL


## DIMENSIONS

- Ø $71 \mathrm{~mm} \times$ LENGTH 30 mm


## TECHNICAL SPECIFICATIONS

- FULL RANGE: $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$
- RANGE WITH ACCURACY OF $\pm 0.5{ }^{\circ} \mathrm{C}$ : $-10^{\circ} \mathrm{C}$ TO $+85^{\circ} \mathrm{C}$

POWER

- SUPPLIED BY THE TRMC

VERSIONS

- TTES-1-1 (1 M CABLE)
- TTES-1-20 (20M CABLE)

USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- GEOTECHNICS
- PISICULTURE
- ENERGY
- GAS
- WATER
- ELECTRICITY
- SOLAR
- WASTE
- ENERGY EFFICIENCY
- INDUSTRY
- MONITORING
- ALARM SYSTEMS


## THE H2S SENSOR

MEASURING H2S IN ANY SETTING

- COMPACT
- 2G/3G/4G TRANSMISSION VIA TRMC
- ATEX CERTIFIED
- BATTERY POWERED


## DESCRIPTION

THE TH2SS-1 IS THE PERFECT ATEX CERTIFIED H2S SENSOR TO REMOTELY MONITOR WASTE WATER SEWER. THE MEASURING HEAD IS EASILY INTERCHANGEABLE ON-SITE AND EMBARKS ITS CALIBRATION.

INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- Ø $71 \mathrm{~mm} \times$ LENGTH 215 mm


## TECHNICAL SPECIFICATIONS

- MEASURING RANGE: 0-2000 ppm
- MAXIMUM OVEREXPOSURE: 10'000 ppm
- MEASUREMENT ACCURACY: $\pm 0.15 \%$ EM
- RESOLUTION: 1 ppm
- TEMPERATURE RANGE: $-30^{\circ} \mathrm{C}$ TO $+50^{\circ} \mathrm{C}$
- RELATIVE HUMIDITY RANGE: 15 TO $90 \%$ NON-CONDENSING
- IP 66
- ATEX CERTIFIED

POWER

- SUPPLIED BY THE TRMC


## USE-CASES

- SCIENCE
- GEOLOGY
- HYDROLOGY
- HYDROGEOLOGY
- ENERGY
- WATER
- INDUSTRY
- MONITORING
- ALARM SYSTEMS



## THE CH4 SENSOR

MEASURING CH4 IN ANY SETTING

- WALL MOUNT ROBUST FLAMEPROOF METAL ENCLOSURE
- LOW POWER CONSUMPTION
- ATEX CERTIFIED


## DESCRIPTION

THE TCH4S-1 IS AN ATEX CERTIFIED FLAMEPROOF METHANE DETECTOR. THE SENSOR IS FULLY CALIBRATED WITH EXCELLENT REPEATABILITY, STABILITY AND LONG LIFETIME.

INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- LENGTH $125 \mathrm{~mm} \times$ WIDTH 133 mm


## TECHNICAL SPECIFICATIONS

- DETECTION RANGE: 0-100\% OF LEL
- RESOLUTION: 0.1\% OF LEL
- LIFETIME OF THE MEASURING CELL: > 5 YEARS
- RECOMMENDED CALIBRATION INTERVAL: 12 MONTHS
- TEMPERATURE RANGE: $-30^{\circ} \mathrm{C}$ TO $+70^{\circ} \mathrm{C}$
- OPERATING ENVIRONMENT: RELATIVE HUMIDITY $<=95 \%$, NON-CONDENSING
- IP 66
- RS-485 MODBUS INTERFACE, POWER SUPPLY VIA TRMC
- POWER SUPPLY 12 VDC
- ATEX CERTIFIED ZONE 2 AND 22

POWER

- SUPPLIED BY THE TRMC


## USE-CASES

- ENERGY
- GAS
- INDUSTRY
- MONITORING
- ALARM SYSTEMS

THE GAS TEMPERATURE SENSOR MEASURING GAS TEMPERATURE IN ANY SETTING

- DIGITAL SENSOR
- EXTREMELY LOW POWER CONSUMPTION
- HIGH ACCURACY
- COMPACT
- RUGGED CASE


## DESCRIPTION

THE TGTS-1 IS A DIGITAL TEMPERATURE SENSOR WITH HIGH PRECISION AND ULTRA LOW POWER CONSUMPTION. ITS STAINLESS STEEL HOUSING IS SUITABLE FOR LONG TERM APPLICATIONS.

## INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- $\varnothing 5.7 \mathrm{~mm} \times$ LENGTH 120 mm


## TECHNICAL SPECIFICATIONS

- RANGE : $-25^{\circ} \mathrm{C}-+60^{\circ} \mathrm{C}$
- ACCURACY: $\pm 0.3^{\circ} \mathrm{C}$


## POWER

- SUPPLIED BY THE TRMC

USE-CASES

- ENERGY
- GAS
- INDUSTRY
- MONITORING
- ALARM SYSTEMS

- DIGITAL SENSOR
- HIGH ACCURACY
- COMPACT
- EXTREMELY LOW POWER CONSUMPTION
- RUGGED STAINLESS STEEL CASE


## DESCRIPTION

THE TGPS-1 IS A DIGITAL PRESSURE SENSOR WITH HIGH PRECISION AND ULTRA LOW POWER CONSUMPTION. ITS STAINLESS STEEL HOUSING IS SUITABLE FOR LONG TERM APPLICATIONS.

## INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- Ø35 mm x LENGTH 95 mm


## TECHNICAL SPECIFICATIONS

- STANDARD RANGES:
- 0-200 mbar GAUGE
- 0-6 bar GAUGE
- 0-25 bar GAUGE
- OTHER RANGES :
- UP TO 70 bar AVAILABLE ON REQUEST
- 5 m SHIELDED CABLE
- FITTING FOR 6 mm STAINLESS STEEL TUBE (ERMETO 6)
- DELIVERED WITH A STAINLESS STEEL TUBE OF 6 mm DIAM
- G1/2'' ADAPTER AVAILABLE ON REQUEST
- EMBEDDED VENT
- ATEX CERTIFIED

POWER

- SUPPLIED BY THE TRMC


## VERSIONS

- TGPS-1-ATEX-02-G-5 THE GAS PRESSURE SENSOR (0.2 bar, 5 m CABLE)
- TGPS-1-ATEX-6-G-5 (6 bar, 5 m CABLE)
- TGPS-1-ATEX-25-G-5 (25 bar, 5 m CABLE)
- TGPS-1-ATEX-300-A-5 (300 bar, 5 m CABLE)


## USE-CASES

- ENERGY
- GAS
- INDUSTRY
- MONITORING
- ALARM SYSTEMS



## THE ELECTRONIC VOLUME CONVERTER

HIGH END BATTERY-POWERED EVC FOR SMART METERING

- HIGH ACCURACY AND STABILITY OF MEASUREMENT
- 2G/3G/4G TRANSMISSION VIA TRMC
- IDEAL FOR BILLING
- MID AND ATEX APPROVED
- LONG BATTERY LIFE
- cost effective


## DESCRIPTION

THE TEVC-1 IS THE HIGH END EVC FOR BILLING PURPOSES. RELIABLE TRANSMISSION THROUGH A 4G TRMC. SEVERAL METERS COMMUNICATION PROTOCOLS AVAILABLE.

INTERFACE

- DIGITAL


## DIMENSIONS

- LENGTH 263 mm x WIDTH 201 mm x HEIGHT 111 mm


## TECHNICAL SPECIFICATIONS

- VOLUME MEASUREMENT FOR ONE METER
- PRESSURE RANGE 0.8-10 bar ABSOLUT
- PULSE OR SCR CODER OR NAMUR INPUT
- ATEX CERTIFIED ZONE 0, ZONE 1, ZONE 2
- MID CERTIFIED
- HIGH ACCURACY
- 17 Ah BATTERY (10 YEARS AUTONOMY DEPENDING ON CONFIGURATION)
- ALARMS OUTPUTS
- IP66 RATED FOR OUTDOOR ENVIRONMENT
- EXTERNAL PRESSURE SENSOR WITH 2.5 m
- TEMPERATURE RANGE : $-25^{\circ} \mathrm{C}-+70^{\circ} \mathrm{C}$
- TEMPERATURE SENSOR LENGTH 50 mm
- TEMPERATURE SENSOR CABLE LENGTH 2.5 m
- PRESSURE UNIT: bar
- BASE PRESSURE: 1.01325 bar
- TEMPERATURE UNIT: ${ }^{\circ} \mathrm{C}$
- BASE TEMPERATURE: $0^{\circ} \mathrm{C}$
- SIZE OF TIME ARCHIVE IN INTERNAL MEMORY: 194 MONTHS
- INPUT FOR EXTERNAL POWER SUPPLY


## POWER

- INTERNAL BATTERY UP TO 10 YEARS


## VERSIONS

- TEVC-1-PULSE
- TEVC-1-SCR
- TEVC-1-NAMUR


## USE-CASES

- ENERGY
- GAS
- INDUSTRY
- MONITORING
- ALARM SYSTEMS


THE PLUVIOMETER MEASURING RAIN IN ANY SETTING

- HIGH LEVEL OF ACCURACY
- WEATHER-RESISTANT MATERIALS
- HIGH DURABILITY DEVICE


## DESCRIPTION

THE TPM-1 COLLECTOR IS DESIGNED FOR YEARS OF ACCURATE, TROUBLE-FREE SERVICE. THE SHAPE IS AERODYNAMICALLY DESIGNED TO MINIMIZE RAINFALL CATCH REDUCTION CAUSED BY HIGH WINDS. THE BODY AND BASE OF THE COLLECTOR ARE CONSTRUCTED OF TOUGH, UV RESISTANT PLASTIC; THE TIPPING BUCKET PIVOTS ON BEARINGS THAT MINIMIZE FRICTION AND WEAR.

INTERFACE

- IMPULSE OUTPUT


## DIMENSIONS

- LENGTH $165 \mathrm{~mm} \times$ WIDTH 240 mm


## TECHNICAL SPECIFICATIONS

- 0.2 mm PER PULSE


## VERSIONS

- TPM-1
- TPM-1-H HEATED VERSION

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY


## POWER

- PASSIVE



## THE ULTIMATE FLUORIMETER

IDEAL RIVER TRACING COMPANION

- 4 OPTICS
- PLUG AND PLAY
- VERY HIGH PRECISION AND RELIABLE
- 2G/3G/4G TRANSMISSION VIA TRMC
- ONLINE VISUALIZATION OF MV AND PPB
- CALIBRATION SERVICE AVAILABLE


## DESCRIPTION

THE FL-30 IS THE PERFECT COMPANION FOR SURFACE-WATER TRACINGS. ITS VERY HIGH SENSITIVITY ALLOW THE DETECTION OF ULTRA-LOW CONCENTRATIONS OF TRACERS. ITS PLUG AND PLAY FUNCTIONALITY MAKES IT EASY TO USE. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION IN PPB.

INTERFACE

- DIGITAL


## DIMENSIONS

- Ø160 mm x LENGTH 170 mm


## TECHNICAL SPECIFICATIONS

- 4 OPTICS FLUOROMETER FOR SURFACE WATER
- TURBIDITY SENSOR
- TEMPERATURE SENSOR
- STAINLESS STEEL HOUSING
- 15 m CABLE (LONGER CABLE ON REQUEST)


## POWER

- SUPPLIED BY THE TRMC

DYE TRACER LIST

- SODIUM NAPHTIONATE
- TINOPAL (CBS-X OR -CL)
- AMINO G ACID
- PHOTINE
- DUASYNE YELLOW T
- PYRANINE
- URANINE (NA FLUORESCEIN)
- EOSINE
- AMIDORHODAMINE G
- RHODAMINE WT
- SULFORHODAMINE B


## USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY



## THE ULTIMATE FLUORIMETER <br> IDEAL RIVER TRACING COMPANION

- 4 OPTICS
- PLUG AND PLAY
- VERY HIGH PRECISION AND RELIABLE
- 2G/3G/4G TRANSMISSION VIA TRMC
- ONLINE VISUALIZATION OF MV AND PPB
- CALIBRATION SERVICE AVAILABLE


## DESCRIPTION

THE FL-24 IS THE PERFECT COMPANION FOR GROUNDWATER TRACINGS THROUGH BOREHOLE. ITS VERY HIGH SENSITIVITY ALLOW THE DETECTION OF ULTRA-LOW CONCENTRATIONS OF TRACERS. ITS PLUG AND PLAY FUNCTIONALITY MAKES IT EASY TO USE. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION IN PPB.

INTERFACE

- DIGITAL


## DIMENSIONS

- Ø $48 \mathrm{~mm} x$ LENGTH 270 mm


## TECHNICAL SPECIFICATIONS

- 4 OPTICS FLUOROMETER FOR SURFACE WATER
- TURBIDITY SENSOR
- TEMPERATURE SENSOR
- STAINLESS STEEL HOUSING
- 30 m CABLE (LONGER CABLE ON REQUEST)


## POWER

- SUPPLIED BY THE TRMC

DYE TRACER LIST

- SODIUM NAPHTIONATE
- TINOPAL (CBS-X OR -CL)
- AMINO G ACID
- PHOTINE
- DUASYNE YELLOW T
- PYRANINE
- URANINE (NA FLUORESCEIN)
- EOSINE
- AMIDORHODAMINE G
- RHODAMINE WT
- SULFORHODAMINE B

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY


## DESCRIPTION

THE TLS-1 IS A VERY HIGH QUALITY DIGITAL SENSOR ALLOWING ACCURATE WATER LEVEL AND TEMPERATURE MEASUREMENTS. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION.

## INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- Ø $22 \mathrm{~mm} \times$ LENGTH 106 mm


## TECHNICAL SPECIFICATIONS

- STANDARD RANGES:
- 0-0.3 bar GAUGE
- 0-1 bar GAUGE
- 0-3 bar GAUGE
- 0-10 bar GAUGE
- 0-30 bar GAUGE


## POWER

- SUPPLIED BY THE TRMC


## VERSIONS

- TLS-1-LT-05-10 (0.5 bar, 10 m CABLE)
- TLS-1-LT-01-5 (0.1 bar, 5 m CABLE)
- TLS-1-LT-8-150 (8 bar, 15 m CABLE)
- TLS-1-LT-ATEX-03-10 (0.3 bar, 10 m CABLE)

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY
- PISICULTURE
- ENERGY
- WATER
- INDUSTRY
- MONITORING
- ALARM SYSTEMS

TETRAEDRE
TLS-1-LTC FAMILY


THE LEVEL, TEMPERATURE AND CONDUCTIVITY SENSOR PLUG AND PLAY WATER MONITORING

- 3 IN 1 SENSOR : CONDUCTIVITY, LEVEL AND TEMPERATURE
- TEMPERATURE COMPENSATED
- ROBUST STAINLESS STEEL HOUSING
- LEVEL RANGES FOR LEVELS FROM 0-3 m TO 0-300 m
- EXCELLENT LONG-TERM STABILITY


## DESCRIPTION

THE TLS-1-LTC IS A VERY HIGH QUALITY 3 IN 1 DIGITAL SENSOR ALLOWING ACCURATE WATER LEVEL, TEMPERATURE AND CONDUCTIVITY MEASUREMENTS. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION.

## INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- Ø $22 \mathrm{~mm} \times$ LENGTH 240 mm


## TECHNICAL SPECIFICATIONS

- CONDUCTIVITY RANGE CONFIGURABLE BY THE USER:
- $0 \mu \mathrm{~S} / \mathrm{cm}-200 \mathrm{mS} / \mathrm{cm}$
- LEVEL STANDARD RANGES:
- 0-0.3 bar GAUGE
- 0-1 bar GAUGE
- 0-3 bar GAUGE
- 0-10 bar GAUGE
- UP TO 0-21 bar GAUGE ON REQUEST


## VERSIONS

- TLS-1-LTC-03-15 (0.3 bar, 15 m CABLE)
- TLS-1-LTC-1-15 (1 bar, 15 m CABLE)
- TLS-1-LTC-10-65 (10 bar, 65 m CABLE)

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY
- PISICULTURE
- ENERGY
- WATER
- INDUSTRY
- MONITORING
- ALARM SYSTEMS


## POWER

- SUPPLIED BY THE TRMC



## THE TURBIDITY SENSOR <br> PLUG AND PLAY WATER MONITORING

- TURBIDITY IN NTU
- FULLY CALIBRATED
- CLEANING SYSTEM BY WIPER
- MEASUREMENT OF SUSPENDED SOLIDS AVAILABLE ON REQUEST


## DESCRIPTION

THE TTUS-1 MEASURES PRECISELY IN VERY CLEAR TO VERY LOADED ENVIRONMENTS. THEY CAN THUS BE USED IN THE TREATMENT OF DRINKING WATER AND WASTEWATER TREATMENT, SLUDGE TREATMENT, AS WELL AS IN THE SURFACE WATER MONITORING. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION.

INTERFACE

- DIGITAL


## DIMENSIONS

- Ø60 mm x LENGTH 200 mm


## TECHNICAL SPECIFICATIONS

- WITH WIPER
- RANGE 0.001-4000 NTU


## POWER

- SUPPLIED BY THE TRMC


## VERSIONS

- TTUS-1-PVC-T THE TURBIDITY SENSOR
- TTUS-1-PVC-TS SUSPENDED MATERIALS (TS LINE)
- TTUS-1-INOX-TS SUSPENDED MATERIALS (TS LINE)

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY
- PISICULTURE
- ENERGY
- WATER
- INDUSTRY
- MONITORING
- ALARM SYSTEMS


## THE PH SENSOR <br> PLUG AND PLAY WATER MONITORING

- DESIGNED TO PERFORM UNDER HARD CONDITIONS
- LONG LIFE CARTRIDGE
- QUICK TIME RESPONSE
- LOW POWER CONSUMPTION


## DESCRIPTION

THE TPHS-1 IS A HIGH QUALITY DIGITAL SENSOR ALLOWING ACCURATE PH MEASUREMENTS. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE data visualization.

## INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- Ø$\quad 27 \mathrm{~mm} \times$ LENGTH 207 mm


## TECHNICAL SPECIFICATIONS

- RANGE : O TO 14 UNITS
- TEMPERATURE : $-10^{\circ} \mathrm{C}$ TO $+50^{\circ} \mathrm{C}$
- ACCURACY: $\pm 0,1 \mathrm{PH}$
- CARTRIDGE EASY to REPLACE


## POWER

- SUPPLIED BY THE TRMC

VERSIONS

- TPHS-1-15 (15 m CABLE)
- TPHS-1-C CARTRIDGE FOR TPHS-1

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY
- PISICULTURE
- ENERGY
- WATER
- INDUSTRY
- MONITORING
- ALARM SYSTEMS

- FULLY CALIBRATED
- SUITABLE FOR FRESH AND SALT WATER
- QUICK REACTION TIME
- ROBUST AND EASILY EXCHANGEABLE SENSOR CAP


## DESCRIPTION

THE TDOS-1 IS A HIGH QUALITY DIGITAL SENSOR ALLOWING ACCURATE DISSOLVED 02 MEASUREMENTS. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION.

INTERFACE

- DIGITAL


## DIMENSIONS

- Ø $30 \mathrm{~mm} \times$ LENGTH 207 mm


## TECHNICAL SPECIFICATIONS

- MEASURING RANGE:
- $0-20 \mathrm{mg} / \mathrm{L}$
- 0-200 \% SAT
- ACCURACY (AT $\left.25^{\circ} \mathrm{C}\right): \pm 1 \%$
- SENSOR CAP EASY TO REPLACE


## VERSIONS

- TDOS-1 (5 m CABLE)
- TDOS-1-C CAP FOR TDOS-1

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY
- PISICUlture
- INDUSTRY
- MONITORING
- ALARM SYSTEMS


## POWER

- SUPPLIED BY THE TRMC

- EASY TO INSTALL
- FULLY CALIBRATED
- SUITABLE FOR FRESH AND SALT WATER
- INTERFACE FOR LOGGERS AND PLC
- LOW POWER CONSUMPTION


## DESCRIPTION

THE TDGP-1 IS ABLE TO MEASURE THE CONCENTRATION OF DISSOLVED GASES PRESENT IN THE WATER. THE VALUE IS CONVERTED IN A NUMERIC FORMAT AND CAN BE ACCESSED THROUGH THE RS-485 MODBUS RTU INTERFACE. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION.

## INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- $\varnothing 70 \mathrm{~mm} \times$ LENGTH 160 mm (WITHOUT CABLE GLAND)


## TECHNICAL SPECIFICATIONS

- TDGP PRESSURE RANGE : 500 mbar TO 1500 mbar ABSOLUTE
- TDGP PRESSURE RANGE IN \%: FROM 50\% OF Patm TO 150\%
- ACCURACY: 4 mbar
- EQUILIBRATION RATE: APPROXIMATELY 60 SECONDS
- RESOLUTION: 1 mbar
- MATERIAL: POLYAMIDE, COPPER, PVC AND STAINLESS STEEL
- DEPTH RATING: 5 m
- INPUT POWER SUPPLY: 12-24 VDC
- POWER CONSUMPTION: 3 mA
- SAMPLE RATE: MAX 1 Hz
- CABLE LENGTH: 2 m
- OTHER CABLE LENGHTS AVAILABLE ON REQUEST


## POWER

- SUPPLIED BY THE TRMC

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY
- FISH FARMS
- INDUSTRY
- MONITORING
- ALARM SYSTEMS


THE REDUX SENSOR
PLUG AND PLAY WATER MONITORING

- EASY TO INSTALL
- FULLY CALIBRATED
- ROBUST AND EASILY EXCHANGEABLE CARTRIDGE
- LOW POWER CONSUMPTION


## DESCRIPTION

THE TRS-1 IS ABLE TO MEASURE THE REDOX POTENTIAL PRESENT IN THE WATER. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION.

INTERFACE

- MODBUS RTU RS-485


## DIMENSIONS

- Ø $28 \mathrm{~mm} \times$ LENGTH 325 mm


## TECHNICAL SPECIFICATIONS

- RANGE OF MEASURE
- $-1000 \mathrm{TO}+1000 \mathrm{mV}$
- $\mathrm{T}^{\circ} \mathrm{C}: 0,00 \mathrm{TO}+50,00^{\circ} \mathrm{C}$
- ACCURACY:
- $\pm 10 \mathrm{mV}$
- $\pm 0,5^{\circ} \mathrm{C}$


## POWER

- SUPPLIED BY THE TRMC


## VERSIONS

- TRS-1 (10 m CABLE)
- TRS-1-C CARTRIDGE

USE-CASES

- SCIENCE
- HYDROLOGY
- HYDROGEOLOGY
- PISICULTURE
- INDUSTRY
- MONITORING
- ALARM SYSTEMS


THE WATER PRESSURE SENSOR PLUG AND PLAY PIPE MONITORING

- HIGH ACCURACY
- COMPACT
- LOW POWER CONSUMPTION
- STAINLESS STEEL


## DESCRIPTION

the TWPS-1 IS able to measure the pressure present in a water pipe with high ACCURACY. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION.

INTERFACE

- DIGITAL


## DIMENSIONS

- Ø $35 \mathrm{~mm} \times$ LENGTH 95 mm


## TECHNICAL SPECIFICATIONS

- STANDARD RANGE:
- 0-6 bar GAUGE
- 0-25 bar GAUGE
- OTHER RANGES UP TO 70 bar AVAILABLE ON REQUEST
- 5 m SHIELDED CABLE
- ERMETO 6
- WITH STAINLESS STEEL TUBE OF 6 mm DIAM
- G1/2" MALE AVAILABLE ON REQUEST


## POWER

- SUPPLIED BY THE TRMC


## VERSIONS

- TWPS-1-6-5 (6 bar, 5 m CABLE)
- TWPS-1-25-5 (25 bar, 5 m CABLE)


## USE-CASES

- ENERGY
- WATER
- INDUSTRY
- MONITORING
- ALARM SYSTEMS



## THE SOIL MOISTURE SENSOR PLUG AND PLAY MONITORING

- ACCURATE VOLUMETRIC SOIL MOISTURE MEASUREMENT
- INTEGRATED TEMPERATURE MEASUREMENT
- SUITABLE FOR ANY TYPE OF SOIL
- ROBUST AND RELIABLE
- EASY INSTALLATION
- COST EFFECTIVE


## DESCRIPTION

THE TSMS-1 IS AN ACCURATE FREQUENCY REFLECTOMETRY SOIL MOISTURE SENSOR.THE SENSOR HAS BROAD MEASUREMENT RANGE. IT'S MAINTENANCE FREE AND FROST
RESISTANT. WITH SHORT RESPONSE TIMES AND LOW DISTURBANCES BY SALINITY IT'S DESIGNED FOR A LONG-TERM MONITORING. COUPLED WITH A TRMC, THIS SENSOR ALLOWS REMOTE TRANSMISSIONS WITH ONLINE DATA VISUALIZATION.

INTERFACE

- ANALOGIC


## DIMENSIONS

- LENGTH 135 mm x WIDTH 21.5 mm

USE-CASES

- SCIENCE
- GEOLOGY
- AGRICULTURAL


## TECHNICAL SPECIFICATIONS

- ACCURACY:
- USING FACTORY CALIBRATION $\pm$ $3 \%$ IN MINERAL SOILS WITH MODERATE
- SALINITY FROM 0 TO 50\% (VWC)
- TEMPERATURE : $\pm 0,8^{\circ} \mathrm{C}$
- RESOLUTION:
- WATER CONTENT: 0,2\%.
- TEMPERATURE : $10 \mathrm{mV} /{ }^{\circ} \mathrm{C}$


## POWER

- SUPPLIED BY THE TRMC


## VIZUALISATION



## CLEAR AND RELIABLE MONITORING

Use our licensed or hosted server to use your data in a fast, secure and reliable way. You can also integrate the collected data directly into your existing system using the tetraedre date server bridge. Other tetraedre tools such as "axiome basic" will allow you to
easily analyze, read or configure your different devices in order to have a better control and management of your network. The ability to visualise your data in a clear and easy way will allow quality follow-up and reliable monitoring.

## SERVER \& <br> VIZUALISATION LIST OF SERVICES

TDS-SAS-H/L
TETRAEDRE DATA SERVER (TDS)

TDS-BRIDGE
CUSTOM SOFTWARE DATABRIDGES

## AXIOME BASIC

TETRAEDRE AXIOME BASIC

| compteur d'eau |
| :---: |
| compteur de chaleur |
| compteur de gaz |
| correcteur de gaz |
| compteur électrique |
| compteur électrique industriel |



Valeurs journalières
O jour
O semaine
Omois $\mathrm{O}_{3}$ mois $\mathrm{O}_{6}$ mois
O année

| $2021-07-21$ |
| :--- | :--- |
| GMT + Hours |




TETRAEDRE DATA SERVER (TDS)
HOSTED OR LICENSED: FAST, SECURE AND ALWAYS UP

- VERY POWERFUL DASHBOARD
- UNLIMITED DATA POINTS
- USER MANAGEMENT
- SECURED
- ENTIRELY CONFIGURABLE BY THE USER
- COST EFFECTIVE
- ACCESSIBLE BY PC OR SMARTPHONE



## CUSTOM SOFTWARE DATABRIDGES PUSH TO YOUR PREFERRED 3RD-PARTY MONITOR

## aws

- 7
- EXPORTS TO OTHER SERVERS
- IMPORTS FROM OTHER SERVERS, PLATFORMS
- MANY DATA FORMATS AVAILABLE
- SECURED EXCHANGES

SAP<br>$\Delta$ Azure

ThingsBoard


## TETRAEDRE AXIOME BASIC <br> THE RETRO STYLE CONFIGURATION TOOL

- CONFIGURE ANY TRMC OR TRP
- OLD FASHIONED DESIGN TO AVOID DEPENDENCIES
- WORKS FROM WINDOWS 95 TO WINDOWS 10


## ACCESSORIES



FINALISE YOUR PROJECTS WITH THE SUITABLE EQUIPMENT

Complete your installations with adapted and quality equipments. Our accessories can be adapted to the needs and constraints of
each project. The compatibility of the accessories with the different devices has already been proven over the years.

# ACCESSORIES LIST OF PRODUCTS 

## BATTERIES RECHARGEABLE OR NOT

## CABLES

THE CABLES YOU NEED

SOLAR
SOLAR PANNELS

## ANTENNAS

 INCREASE YOUR SIGNAL
## TSB

THE INTRINSIC
SAFETY BARRIER


## BATTERIES

RECHARGEABLE OR NOT : WE PROVIDE WHAT YOU NEED

- LITHIUM BATTERIES
- LITHIUM-ION BATTERIES
- COST EFFECTIVE
- INTEGRATED SAFETY CIRCUIT



## CABLES

## WE MANUFACTURE THE CABLES YOU NEED

- CUSTOMIZABLE
- HIGH QUALITY
- COST EFFECTIVE
- antenna cable extensions available



## SOLAR PANNELS <br> THE PERFECT SOLUTION FOR ULTRA REMOTE APPLICATIONS

- MANY FORMATS AVAILABLE
- ALLOW VERY LONG TERM MONITORING
- 12 V STANDARD VOLTAGE


## ANTENNAS

TO EASILY INCREASE THE SIGNAL STRENGTH OF YOUR SOLUTION

- OMNI-DIRECTIONAL ANTENNAS
- DIRECTIONAL ANTENNAS
- VARIOUS CABLE LENGTHS AVAILABLE
- COST EFFECTIVE



## THE INTRINSIC SAFETY BARRIER <br> PROTECTION SYSTEM FOR APPLICATIONS IN EXPLOSIVE ENVIRONMENT

- PROTECTS LINES OF METERS AND SENSORS INSTALLED IN ATEX ZONES 1 OR 2
- DESIGNED FOR ANALOG AND DIGITAL SIGNALS
- PASSIVE BARRIER - DOES NOT REQUIRE A POWER SUPPLY
- 4 CHANNELS
- ATEX CERTIFIED


## SERVICES



OUR SERVICES TO MAKE YOUR PROJECTS EASIER

Use our expertise and services to configure, create or customise some products to your needs. You can also take advantage of our
rental service for periodic projects. our complementary services such as sim plans offer you complete, turn-key solutions.

## SERVICES LIST OF SERVIC =S

## SIM

VARIOUS SIM PLANS

CONFIGURATION
WE CONFIGURE YOUR DEVICE

CUSTOMIZATION
WE MAKE THE HARDWARE OR SOFTWARE YOU NEED

## RENTAL

WE RENT


## VARIOUS SIM PLANS <br> THE COST-EFFECTIVE SOLUTION FOR IOT TRANSMISSIONS

- COST-EFFECTIVE
- INTERNATIONAL COVERAGE
- ADAPTATED TO YOUR NEEDS
- 2G-3G-4G TRANSMISSION

```
path="c:\teu, dre\do\a_ xm"/>
```


+++++++++++++++++++3 vers $^{\prime}>$
$=" 499^{\prime \prime}$ version $=$ trmc
in configuration
GURATION value $=$ " 0 " $>$
YSCTRL acq enabled
aca dump $=$ "on" flash_store $=$ "off"
enabled $="$ on
time_zone $=" 2 " />$

ACQ_INTERVAL value $=" 900^{\prime \prime} />$
NFIGURATION>
byte $0=$ " 1 " bytel $=$ " 6 " byte2 $=$ " 1 module $=" 23^{\prime \prime}$ parameter_number= $\quad 1=$ secondary address (SNR) $6=$ interface 6 (Radio $L$. <ACTION32

- CUSTOMIZABLE
- FILES VERSIONING
- COST EFFECTIVE



## CUSTOMIZATION

YOU CANNOT FIND THE HARDWARE OR SOFTWARE YOU NEED : WE MAKE IT

- LOW MOQ
- HIGH QUALITY
- COST EFFECTIVE



## RENTAL

YOU NEED IT ONLY FOR ONE PROJECT : WE RENT

- PLUG AND PLAY
- FULLY CALIBRATED
- COST EFFECTIVE
- WORLDWIDE DELIVERY


## SERVICES



OUR SERVICES TO MAKE YOUR PROJECTS EASIER

Use our expertise and services to configure, create or customise some products to your needs. You can also take advantage of our
rental service for periodic projects. our complementary services such as sim plans offer you complete, turn-key solutions.

## SERVICES LIST OF SERVIC =S

## SIM

VARIOUS SIM PLANS

CONFIGURATION
WE CONFIGURE YOUR DEVICE

CUSTOMIZATION
WE MAKE THE HARDWARE OR SOFTWARE YOU NEED

## RENTAL

WE RENT


