

INTELLCORR

DISCOVER THE LATEST TECHNOLOGY FOR
CORROSION MANAGEMENT SOLUTION

Progressively Delivering Total Solutions to Corrosion

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WHAT IS INTELLCORR

The Intelligent Corrosion Management System, known as **IntellCorr**, is a comprehensive corrosion management solution covering software, hardware, and services.



This solution provides:-

- ✓ Monitoring
- ✓ Control
- ✓ Data Management
- ✓ Reporting Dashboard
- ✓ Prediction
- ✓ Advance Analytic

“Customers have the flexibility to implement the IntellCorr total solution on a case-by-case basis, tailored to specific plant conditions, as part of their strategy to achieve their Corrosion Management Plan objectives.”

INTELLCORR FEATURES



1

Comprehensive Solution

IntellCorr provides a comprehensive corrosion management solution, encompassing software, hardware, and services.

2

Multi-platform Compatibility

IntellCorr is compatible with various hardware platforms, including sensors, controllers, and data acquisition devices.

3

Real-time Parameter Monitoring

Real-time Monitoring and Control Capabilities for Corrosion-Related Parameters.

4

Digital Data Management

Utilising digitalisation, IntellCorr efficiently collects, stores, and manages extensive amounts of corrosion data, eliminating the requirement for manual record-keeping.

INTELLCORR BENEFITS



- ✓ Holistic Corrosion Management
- ✓ Cross Platform Integration
- ✓ Early Warning System
- ✓ Customisable Solutions
- ✓ Real Time Insights
- ✓ Data Driven Decisions
- ✓ Cost Savings
- ✓ Efficiency Improvement

INTELLCORR ADVANTAGES



- ✓ Comprehensive Solution Integration
- ✓ Hardware Compatibility
- ✓ Rapid Response
- ✓ Tailored Implementation
- ✓ Proactive Maintenance
- ✓ Data Driven Strategy
- ✓ Long Term Cost Reduction
- ✓ Competitive Advantage
- ✓ Enhanced Safety



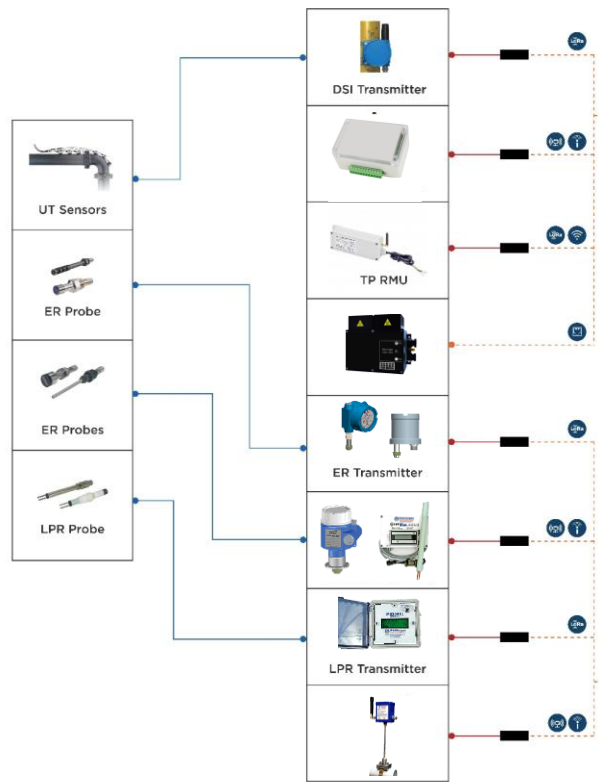
IntellCorr System

Advancing Corrosion Monitoring Through Automatisation and Digitalisation



FIELD DEVICES

Field devices, located remotely, gather corrosion-related data from the environment using sensors, probes, and transmitters. These devices collect diverse information like corrosion rate, cathodic protection status, and wall thickness. Transmitters then convert analog data into digital for transmission. Collected data is sent to the field controller through methods like LoRaWan, WiHART 7, 3G/4G/LTE, or LAN.



FIELD CONTROLLERS

The IntellCorr panel serves as a field controller, collecting data from field devices and using predefined algorithms to process it. This bridge between devices and higher-level systems validates data, performs transformations, and executes control algorithms for parameter adjustments. Processed data is then sent to the application server for storage and analysis.



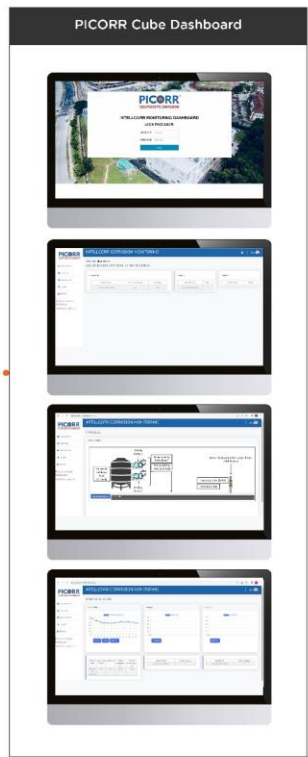
APPLICATION SERVER

The IntellCorr Database/Server acts as the backend application server, receiving and storing data from field controllers. It uses secure cloud-based databases for storage and supports advanced analytics, data aggregation, and long-term storage. This centralised repository is accessible to different components, including the user interface.



USER INTERFACE

The PICORR Cube Dashboard is a user-friendly frontend that lets users interact with data, perform analytics, and make data-driven decisions. It enables monitoring, historical trend observation, parameter configuration, and remote actions, accessible through web interfaces or dedicated apps.



The IntellCorr System Process Insights

1

Field devices collect data, which is transmitted using various communication methods (LoRaWan, WiHART 7, 3G/4G/LTE, or LAN) to the field controller.

2

The field controller processes the data using algorithms and controls parameters. Processed data is then sent to the application server for storage.

3

Users can monitor and interact with the data through the user interface (dashboard).

Legend and Symbols



WHAT IS INTELLCORR CP

IntellCorr CP is a part of the IntellCorr system division, intelligent corrosion management system dedicated to Cathodic Protection (CP) monitoring. It utilizes interrupters and remote monitoring units to collect real-time data, ensuring the CP system's effectiveness in protecting underground pipelines from corrosion.

IntellCorr CP system fundamental of IntellCorr system which consists of Field Devices, Field Controller, Application Server and User Interface.

It incorporates automation in data collection and analysis, providing a dashboard that displays the collected data in real time.

BENEFITS

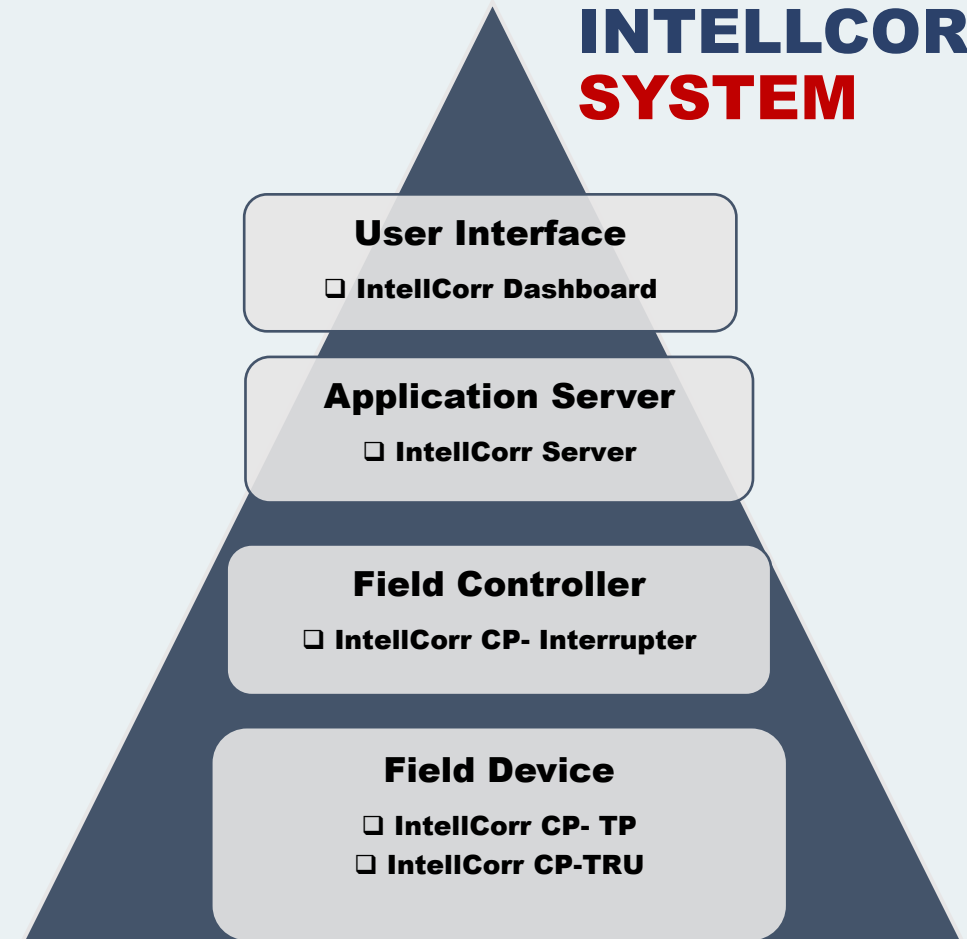
Compared to conventional methods of data monitoring for CP, **IntellCorr CP** offers several benefits

- The system eliminates the need for manual data collection and recording reducing the risk of human error, less maintenance, no intrusion, instant alert notification and enabling real time analysis
- The use of Interrupter and remote monitoring units allows for more accurate and precise measurements of the pipeline's cathodic protection performance
- The system's digitalization allows for data to be easily accessed and shared enabling better decision making and more efficient maintenance of the CP system

IntellCorr CP offers a more advanced and efficient way of monitoring the performance of the CP system, providing greater protection against localized corrosion and extending the lifespan of the pipeline

Intelligent Corrosion Management System for Cathodic Protection Monitoring

INTELLCORR CP SYSTEM



INTELLCORR CP TEST POST MONITORING UNIT



Intelligent Corrosion Management System for Cathodic Protection Monitoring

OVERVIEW

IntellCorr CP Test Post Monitoring Unit is a Remote Monitoring Unit (RMU) that used to monitor cathodic protection that can installed in the within a test post. It carries out the functional checks of rectifier output (voltage and current) in order to ensure a continuous CP supply to the pipeline.

The unit monitors and collects pipeline potentials automatically, checks these measurements against user specified alert criteria and reports immediately if an alarm threshold is exceeded. The MERLIN7 CP Monitor can be deployed anywhere on the pipeline network where it is important to record ON/OFF pipe-to-soil potentials, native coupon potentials and measurements of interfering currents.

All measurements are taken automatically by the unit and data is seamlessly sent in a management report to the system HQ where it is displayed and archived online via **IntellCorr** Server.

FEATURES AND BENEFITS

- Compatible with 4G and 2G GSM networks
- Mobile phone test & set-up.
- Sealed weatherproof unit with wide operational temperature
- Hourly check of rectifier outputs, ON/OFF potentials
- Daily CP level check (hourly optional for problem solving)
- DC and AC monitoring for full corrosion prevention
- ON / OFF / Native Potentials and coupon current monitoring channels
- Immediate alarm generation (user preset thresholds on all channels)
- Alarms when protection inadequate or power fails at rectifier
- Weekly report gives min, max and average of all channels for the week

SPECIFICATIONS

DIMENSIONS (H X W X D)

- 125mm x 85mm x 55mm

INGRESS PROTECTION

- IP67

TEMPERATURE RANGE

- -40 °C to +85 °C 100% condensing humidity

COMMUNICATION

- 4G/ 2G/ GSM networks

BATTERY

- 5 year life
- Replaceable battery module



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INTELLCORR CP TRANSFORMER RECTIFIER MONITORING UNIT



Intelligent Corrosion Management System for Cathodic Protection Monitoring

OVERVIEW

IntellCorr CP Transformer Rectifier Monitoring Unit is a Remote Monitoring Unit (RMU) that used to monitor rectifier that can installed in the cabinet. It carries out the functional checks of rectifier output (voltage and current) in order to ensure a continuous CP supply to the pipeline.

The **IntellCorr** CP Transformer Rectifier Monitoring Unit offers additional CP measurements (ON and OFF potentials) as well as the facility to synchronize remotely with other rectifiers on a pipeline for CIPS (Close Interval Potential Surveys) or DCVG (Direct Current Voltage Gradient) surveys. Additionally the unit controls a solid state Interrupter to provide a signal for tracing the pipeline route.

All measurements are taken automatically by the unit and data is seamlessly sent in a management report to the system HQ where it is displayed and archived online via **IntellCorr** Server.

FEATURES AND BENEFITS

- Compatible with 4G and 2G networks
- Mobile phone test & set-up, on-demand readings and control of rectifier output relay
- Sealed weatherproof unit with wide operational temperature
- AC powered (110V to 230V) with 2 year battery backup. DC power option for solar stations
- Hourly check of rectifier outputs, ON/OFF potentials
- Synchronised
- Start with the ON or OFF for interruption, cycles up to 240 seconds
- Compatible with Solid State and mercury relays
- Immediate alarm generation (user preset thresholds on all channels)
- Alarms when protection inadequate or power fails at rectifier
- Weekly report gives min, max and average of all channels for the week

SPECIFICATIONS

DIMENSIONS (H X W X D)

- 85mm x 125mm x 55mm

INGRESS PROTECTION

- IP67

TEMPERATURE RANGE

- -40 °C to +85 °C 100% condensing humidity

COMMUNICATION

- 4G/ 2G/ GSM networks

POWER

- AC powered 110V to 230V
- DC power option also available

BATTERY BACKUP

- 2 years life
- Replaceable battery module



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INTELLCORR CP INTERRUPTER UNIT



Intelligent Corrosion Management System for Cathodic Protection Monitoring

OVERVIEW

IntelliCorr CP Interrupter Unit is designed for precise solid state interruption of rectifiers connected to a buried pipeline. Used in conjunction with specific Transformer Rectifier Remote Monitoring Units (RMUs), it enables interruption (switching of the current output) at a rectifier to be controlled remotely.

Rectifier interruption is used to carry out Close Interval and DCVG (Direct Current Voltage Gradient) surveys, major ON/OFF surveys at CP test posts and pipeline maintenance work.

FEATURES AND BENEFITS

- Designed for all interruption cycles and extended use
- Precision solid state switching
- Less than 500us switching delay
- Electromechanical fail safe
- Short circuit and surge protection on output
- Wide operational temperature for all extremes
- Switches up to 20A current (40A below 25°C)
- Compact size for ease of installation within most rectifier enclosures
- Compatible with all industry recognized Close Interval and DCVG survey patterns and most portable above-ground survey equipment
- Quick and easy to install, with labeled connections to TRU RMUs
- Robust unit housed in metal casing

SPECIFICATIONS

DIMENSIONS (H X W X D)

- 17.5cm x 21.8cm x 10.6cm

INGRESS PROTECTION

- IP20

TEMPERATURE RANGE

- -40 °C to +85 °C

FAIL SAFE

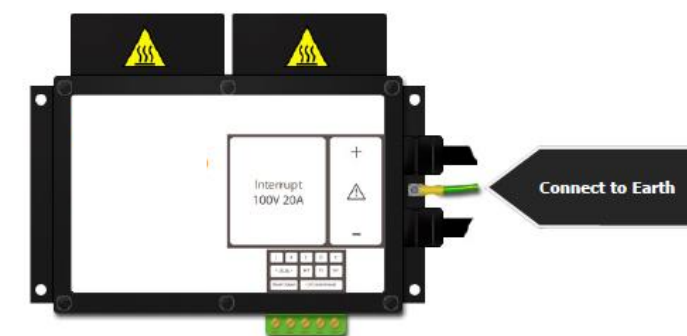
- Electromechanical

OUTPUT PROTECTION

- Short circuit and surge

MAX SWITCHING VOLTAGE

- 100V peak



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INTELLCORR CP APPLICATION SERVER & INTELLCORR DASHBOARD



Intelligent Corrosion Management System for Cathodic Protection Monitoring

OVERVIEW

IntellCorr Database/Server acts as the backend application server, receiving and storing data from field device. It uses secure cloud-based database for storage and support analytics, data aggregation and centralized repository is accessible to different components including the user interface.

IntellCorr Dashboard is a user-friendly frontend that lets user interact with data, perform analytics and make data-driven decision. It enables monitoring, remote control, historical trend observation, parameter configuration through web interface or dedicated apps.

FEATURES AND BENEFITS

- Access to rectifier and CP data anytime/anywhere (via any internet enabled device such as laptop, smart phone or tablet)
- Graphical and numerical data display
- Overview shows status of all RMUs on pipeline
- Electromechanical fail safe
- Remote synchronised interruption for all rectifiers on a pipeline
- On-demand data from rectifier RMUs
- Configurable data export and interface options
- Alarm folders for quick identification of CP incidents
- User alerts to specified email addresses or mobile numbers
- Notes facility for locations and individual reports
- Secure database running on dedicated servers
- No software installation required
- Compatible with the latest browsers such as Google Chrome, Microsoft Edge.
- Multiple users can log in and access data
- User password reset function

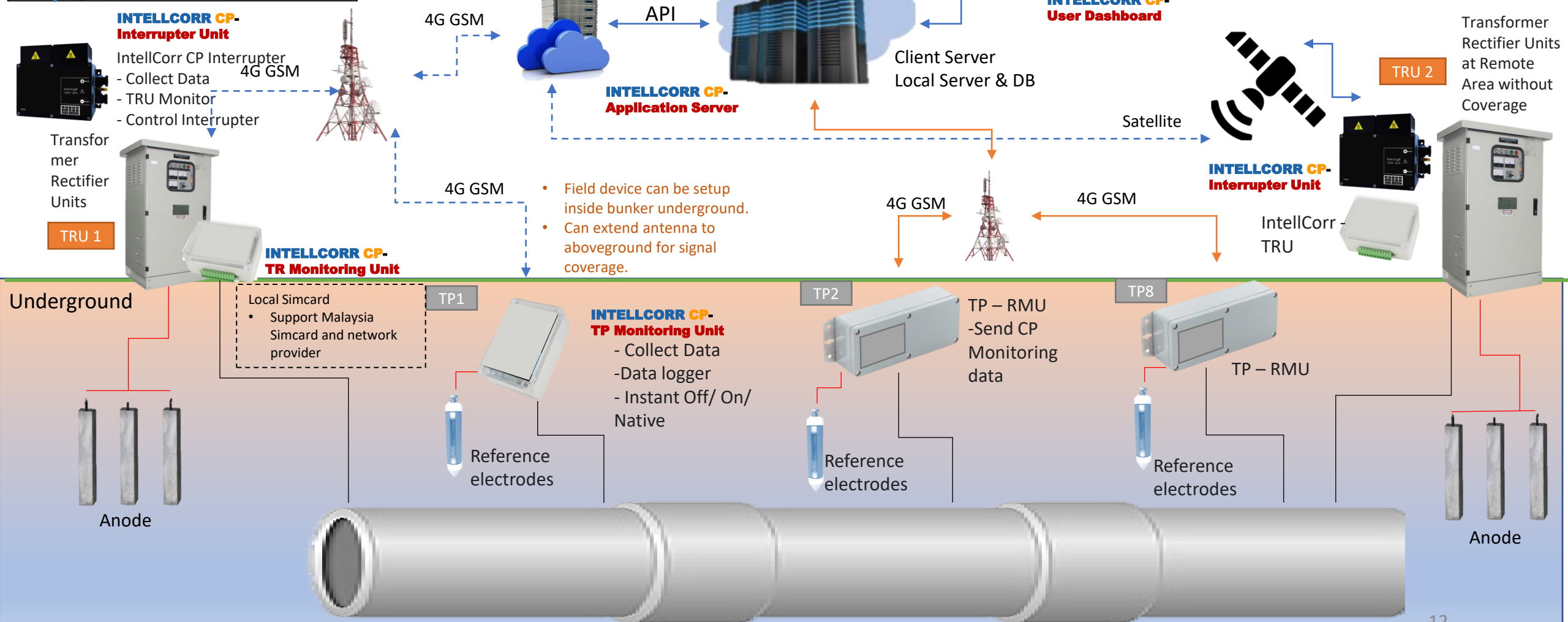
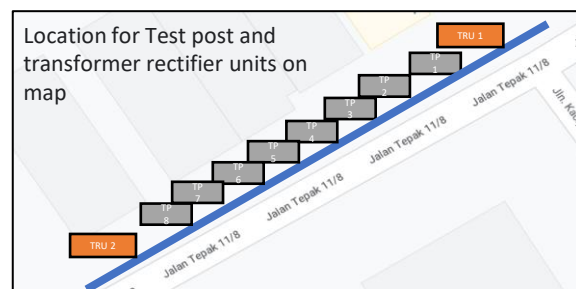
Software License types:

- Controller+ - Full control over the software system, including RMU configuration and user management
- Controller License - Full control over the software system
- Technician License - Operational control but without the ability to change software system settings. A Technician has full viewing functionality and can also perform operations such as pipeline interruption and on-demand readings
- Viewer License - Read-only access to the dashboard without RMU configuration or control

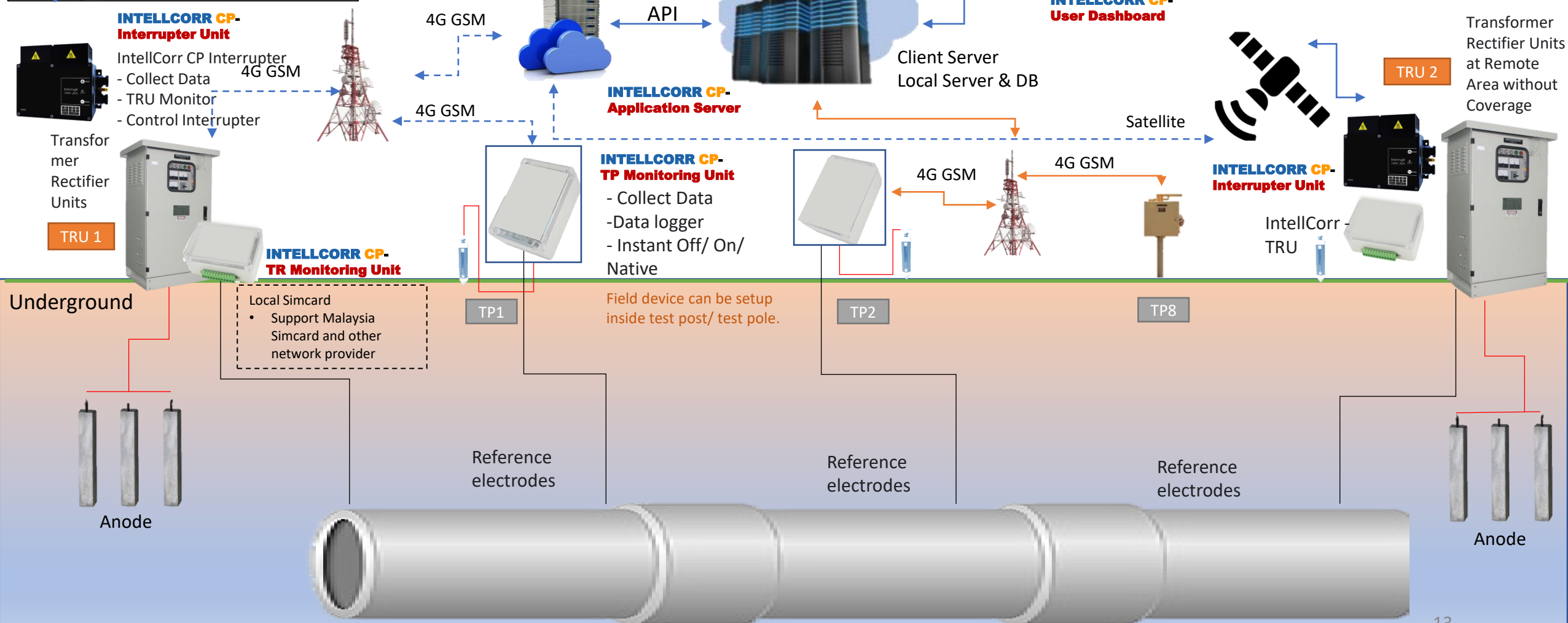
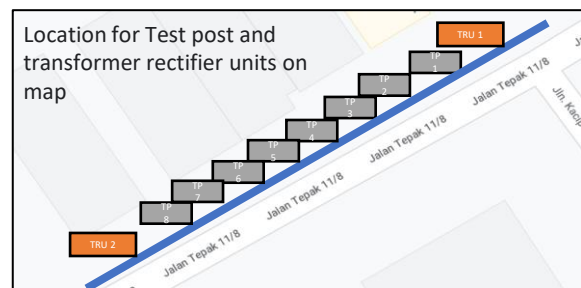


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INTELLCORR CP- System Architecture



INTELLCORR CP- System Architecture



THANK YOU

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