WILOG-CP

CATHODIC PROTECTION MONITOR

Wireless Technologies USA
Witech USA Corp

WILOG-CP

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Cathodic protection (CP) requires continuous monitoring to ensure that the system is working properly and protection is effectively preventing corrosion to buried metal pipelines but this protection must be applied at correct levels all the time. Every pipeline operator must carry on regular measurements of CP at rectifiers and test points.

Collecting and analyzing field measurements is a costly and time consuming labor. A good analysis of the actual CP protection includes data taken at test points for measurement of AC components on the pipeline as well as detailed sampling when performing instant-off half-cell potential measurement and this task requires high cost specialized equipment.

Wilog-CP is specifically designed for monitoring the protection potential and storing a record of the instant-off during the ON-OFF method test executing all these tasks without the need for technicians going out to test points or rectifiers.

This is not all, WILOG-CP is able to connect directly to Scada systems or to our NOVO cloud based Scada system via 3G/4G/LTE networks in order to report any out of range values measured in real time. At scheduled intervals, it sends all history to the Scada system (Hourly/Daily) for up to every 90 days and synchronizes the rectifiers programming with the cycled events for the ON-OFF taking.

HOW IT WORKS?

WILOG-CP is first configured to take samples at required intervals for history logging, report to Scada system, and program alarms for high and low potential levels.

Scada sends all WILOG-CP in the network date and time for next Instant–off readings using GPS syncing. Seconds before the cycle hour, WILOG-CP starts the samples of potential to high frequency waiting the exact moment of OFF. Once the event is done, WILOG-CP registers the ON-OFF history. Data is then sent to Scada providing ON/OFF historical potential.

BENEFITS

WILOG-CP

Easy installation to existing test point poles.

Stores historically CP potential max/min values, AC component, instant and average.

Sends historical information at scheduled intervals to Scada systems or Web based cloud Novo service using 3G/4G/LTE networks and Modbus protocols.

Sends alarm conditions in real time to Scada systems or Web based cloud Novo service using 3G/4G/LTE networks and Modbus protocols.

Stores Instant-Off events.

Easy configuration through a USB PC and intuitive WTconfig PC Windows application. Also can be configured and upgradable over the air from Scada systems, NOVO Cloud Scada web service or a single computer running WTconfig software and internet connection.

Lithium battery powered. Different options allow for 5 – 10 years battery life.

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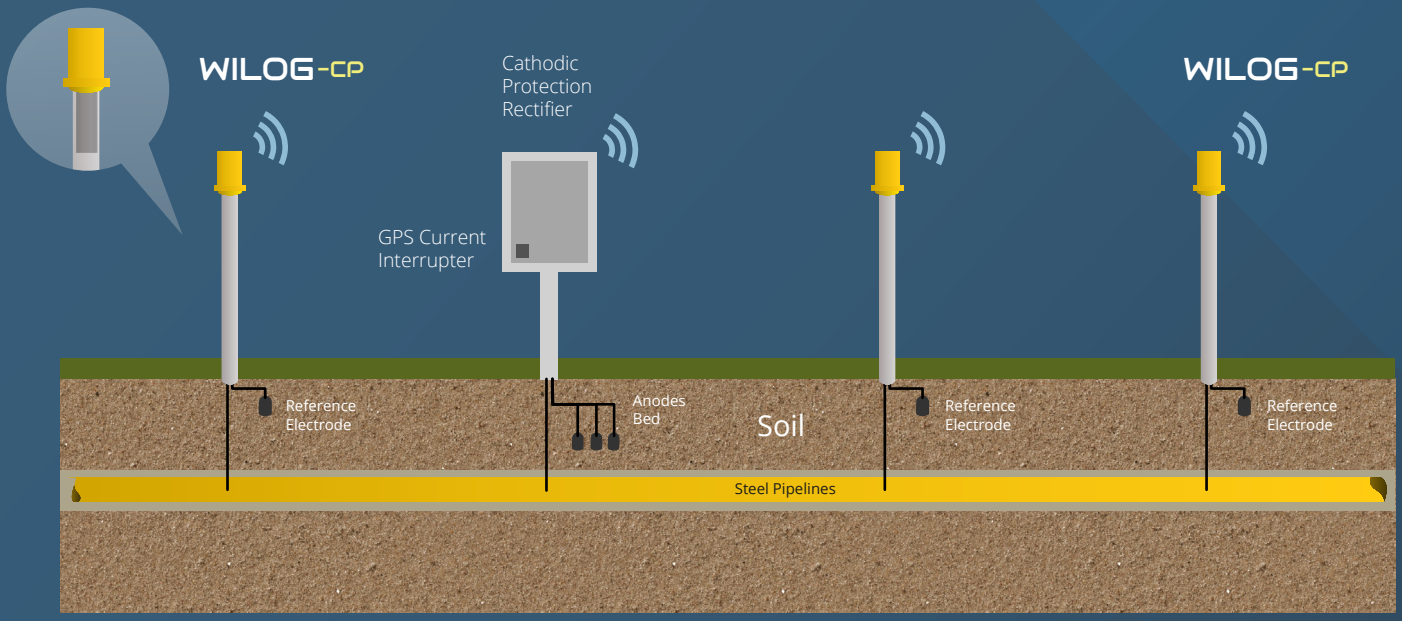
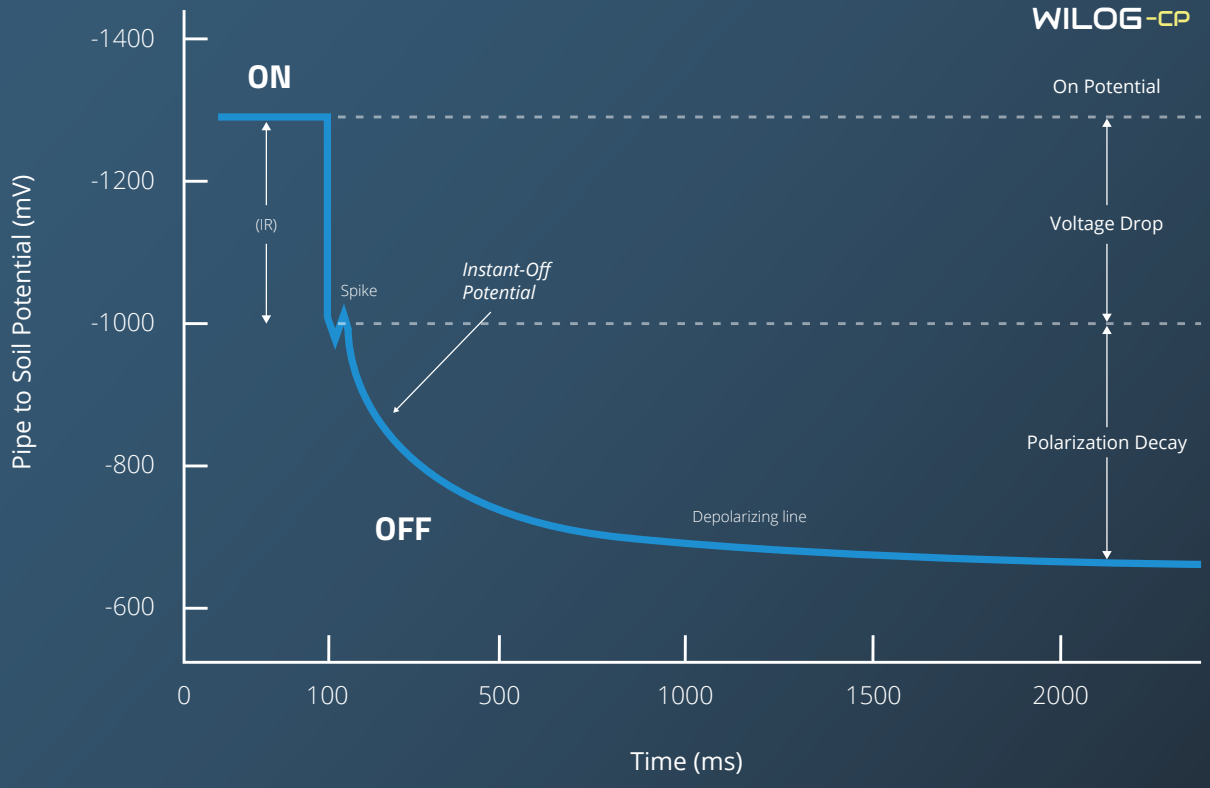
WILOG-CP INSTANT OFF DATA

WILOG-CP



WILOG-CP stores the potential minimum value reached of 100 miliseconds before the energy interruption moment of the InstantOff, and the maximum measured during configurable seconds afther the detection of the event. Then, this historical data is sent to Scada systems or to our Novo Cloud Scada Web based service for a more detailed analysis thus helping to know the real potential or some problem related to its integrity and at the same thime know the true state of the cathodic protection of the structure.



WILOG-CP TOPOLOGY

WILOG-CP

WILOG-CP is able to connect to Scada systems directly or via our NOVO Cloud Scada web service in order to send information for automatically adjusting the rectifiers required to achieve the perfect level of protection of the entire pipeline. Also, all alarms are sent in real time due to high/low or lack of protection level.

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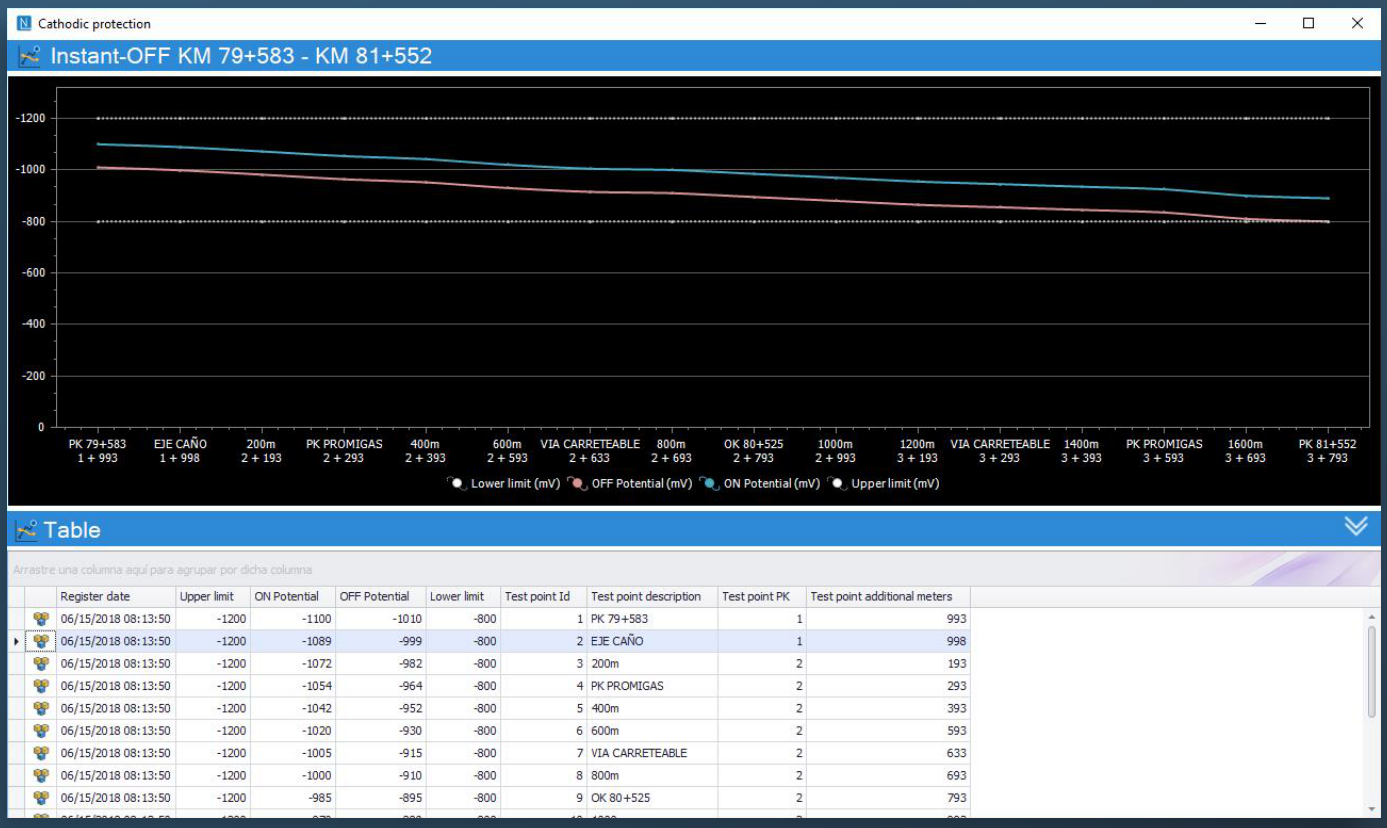
WILOG-CP INSTALLED

WILOG-CP

Using our NOVO Scada or NOVO Cloud Scada web service, you can keep track of the actual network and be able to see the potential behavior along the full monitored pipeline. Easily detect location of any possible holiday in the pipeline. Synchronized views and AC components help to corroborate if voltage fluctuations come from AC components or interferences identifying again possible holiday and its location.

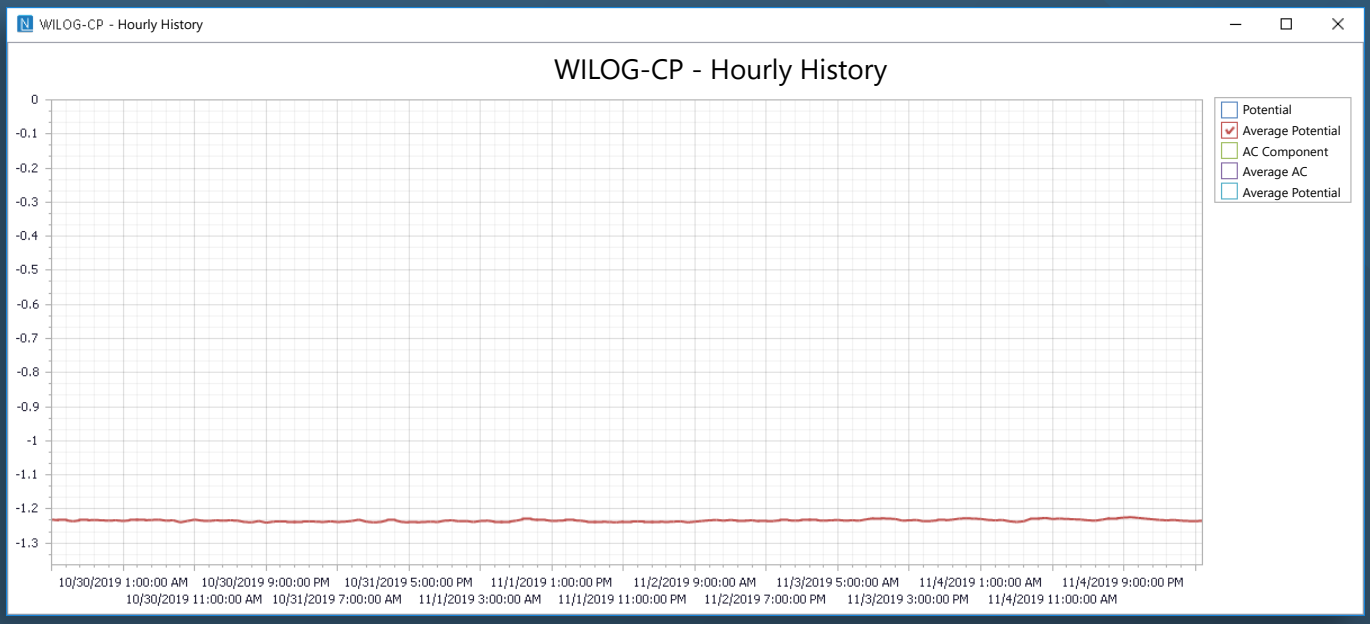


Register date	Upper limit	ON Potential	OFF Potential	Lower limit	Test point Id	Test point description	Test point PK	Test point additional meters
06/15/2018 08:13:50	-1200	-1100	-1010	-800	1	PK 79+583	1	993
06/15/2018 08:13:50	-1200	-1089	-999	-800	2	EJE CAÑO	1	998
06/15/2018 08:13:50	-1200	-1072	-982	-800	3	200m	2	193
06/15/2018 08:13:50	-1200	-1054	-964	-800	4	PK PROMIGAS	2	293
06/15/2018 08:13:50	-1200	-1042	-952	-800	5	400m	2	393
06/15/2018 08:13:50	-1200	-1020	-930	-800	6	600m	2	593
06/15/2018 08:13:50	-1200	-1005	-915	-800	7	VIA CARRETEABLE	2	633
06/15/2018 08:13:50	-1200	-1000	-910	-800	8	800m	2	693
06/15/2018 08:13:50	-1200	-985	-895	-800	9	OK 80+525	2	793

WILOG-CP INSTALLED

WILOG-CP

Detailed ON Potential sampling per test points.



Instant-Off event per test point via NOVO Scada.

Instant off details

Upper limit (mV)	On potential (mV)	Off potencial (mV)	Lower limit (mV)
1200	860	1148	800
1200	860	1150	800
1200	860	1149	800
1200	860	1151	800
1200	860	1152	800

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TECHNICAL SPECIFICATIONS

WILOG-CP

Housing

Material:	Polycarbonate
Dimensions:	50 mm x 60 mm x 240 mm
UV Resistance:	UL 508
Ingress Protection (EN 60529):	IP66/IP67
NEMA Class:	1, 4, 4X, 12, 13

Communications

Remote:	Cellular 3.5G technology and Optional 4G LTE Quad-band GSM / GPRS / EDGE (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) Hexa-band UMTS WCDMA FDD (800 MHz (B19), 850 MHz(B5/B6), 900MHz(B8), 1900 MHz(B2), 2100MHz(B1))
Local:	Micro USB and WTConfig Software configuration
Protocol:	Modbus ASCII/RTU, Modbus TCPIP, Modbus Enron
Data Encryption:	AES-128 (Advanced Encryption Standard) for data communication security (Only with Novo Cloud Scada)

Power

Input:	7.2Vdc - 4xC battery 3.6V
Consumption:	~50mA tx/rx, ~9uA Sleep mode 12Vdc
Battery life:	Tipically > 10 years

TECHNICAL SPECIFICATIONS

WILOG-CP

History

Daily:	90 records
Interval (per minute):	2160 records

Environment

Hazardous Environment:	Designed for Class 1, Div. 2
Operating Temperature:	-22°F to +140°F (-30°C to +60°C)
Humidity:	Up to 95% non-condensing

System Upgrade

USB and FOTA

Real Time Clock

+/- 1 sec per day typical accuracy, synchronizes with cellular network

Certifications and Environmental

RoHS Directive Compliant:	2011/65/EU
Disposing of the Product (2012 Directive):	2012/19/EU (WEEE)
FCC ID:	N7NHL8548
FCC IC:	2417C-HL8548

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