MultiLog

AUTONOMOUS CORROSION MULTI-LOGGER

Advantages

MultiLog is a multi-probe corrosion data logger for flexible continuous corrosion monitoring.
- MultiLog reads and stores corrosion data automatically
- MultiLog provides corrosion rate and trend information
- MultiLog reads data from most types and brands of probes
- Both on-line and off-line data retrieval possible

MultiLog ensures that corrosion data is logged at regular intervals without data loss, allowing detection of process related corrosion, loss/reduced effect of inhibitor, and similar.

Features

MultiLog is an autonomous battery powered field unit for interrogation and monitoring of most common types of corrosion probes in process plants or onshore and offshore oil and gas installations:
- MultiLog features 6 channels per unit
- Up to 5 ER probes
- 1 multifunction input for LPR probe, or a Galvanic probe, or a Full polarization probe

MultiLog fits directly to the probe/access fitting, and/or it can be connected to remote probes through cabling. MultiLog is rugged, deluge proof (IP66) and certified for hazardous locations.

MOT Monitoring Technology
Continuous Monitoring

More and more customers consider corrosion monitoring a vital part of their process information system. MultiLog gives the full advantages of continuous corrosion monitoring, also for off-line configurations.

Data is collected at programmable intervals, providing corrosion rate and accumulated metal loss over time. A total of 3000 readings can be stored and downloaded together with other information such as time, date and probe identification. This means unbroken data collection also in the event of power/communication failure.

MultiLog provides highly accurate ER-probe measurements with short response time even for low corrosion rates.

Field experience with MultiLog and CorrOcean’s high sensitivity ER probe, combining frequent measurements and averaging techniques, shows that corrosion rates as low as 5 mpy (0,13 mm/ year) can be reliably detected in short time spans.

Automated On-Line Data Logging

MultiLog may be permanently connected through CorrOcean’s proprietary FieldBus system (see data sheet no 151) to your PC/MultiTrend for on-line programming and corrosion monitoring.

The FieldBus system provides both power (battery charging) and communication with the MultiLog unit. The rechargeable NiCd battery pack provides uninterrupted operation in the event of a comms/power failure.

CorrOcean offers a wide range of data/communication interfaces and solutions to provide corrosion information to the right users at the appropriate time. Contact CorrOcean with your system requirements.

MultiLog is ideal for adding continuous monitoring advantages to existing probes. In addition to the improved data quality, the cost and time savings in retrieving data, even in off-line system, is significant.

Off-line Data Logging

Data may be collected from MultiLog by downloading data to an intrinsically safe, handheld MultiCorr corrosion meter with a terminal option. Off-line MultiLog is powered by a long life Li battery pack. A direct PC-MultiLog connection is possible (subject to hazardous zone restrictions), but the most common option for reduced cabling is to use MultiCorr as a data gathering tool.
Other System Configurations

MultiLog may transmit data to a control system via a 4-20 mA loop. The 4-20 mA channel provides access to one specific probe, but additional probes may be connected to MultiLog. Their data will be stored in memory for off-line data retrieval as described above.

Data resolution over a 4-20 mA line is somewhat less than what is achieved by digital communication (all other options).

MultiLog may also be adapted to other system configurations, e.g. for continuous monitoring in remote locations. Please consult CorrOcean for advice regarding the options for your application.

Integrated Systems

MultiLog can be used in combined corrosion and sand monitoring systems, using MultiLog for corrosion monitoring and SandLog for sand monitoring, while sharing the same FieldBus System and MultiTrend software.

The combination of multiple probes to one logger and several loggers on one bus cable makes even extensive systems extremely cost effective.

MultiLog Companion Products

MultiTrend Software

MultiTrend offers
• data and equipment management,
• data retrieval and analysis, and
• data presentation
in one powerful Windows/NT package, with performance equal to many systems at much higher cost (see data sheet no 157).

MultiTrend is a user-friendly tool for operating the MultiLog system (both set-up and data retrieval), as well as data analysis, display and reporting of corrosion monitoring data.

MultiCorr

MultiCorr is a hand held and intrinsically safe instrument that can directly interrogate most types of corrosion probes from any supplier (see data sheet no 155). MultiTrend is used to store and present the data.

MultiCorr needs to be equipped with a terminal function option to communicate with MultiLog.
### Multilog Specifications

<table>
<thead>
<tr>
<th>Housing:</th>
<th>Cylindrical, dia: 210 mm, height: 100 mm</th>
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</thead>
<tbody>
<tr>
<td>Weight</td>
<td>3.7 kg / 8.2 pounds</td>
</tr>
<tr>
<td>Deluge proof, IP66. Corrosion resistant stainless steel housing. (Roughly equivalent to NEMA 4x)</td>
<td></td>
</tr>
<tr>
<td>Instrinsically safe, EEx ia IIC T4 (NEXO no. Ex96 D I 14X)</td>
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</tbody>
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- Operating temperature: 
  \(-10^\circ C \) to \(+60^\circ C \) (\(15^\circ F \) to 75°F) 

- Number of channels: 
  1 to 5 ER probes in combination with 1 electro-chemical probe 
  Each ER channel may be used for 2 CP or voltage readings 

- Storage capacity: 
  3000 readings, each including: result, probe no., minute, hour, day, month, year 
  Tag nos and probe data are handled by the MultiTrend PC Software 

- Data transmission: 
  MultiLog transmits ASCII data over a modified RS232 port 

- Potential range and resolution: 
  2.4 V and 0.6 µV (analog function) 

- Current resolution: 
  0.01 µA (galvanic function) 

- Power output (for polarization tests): 
  Max 1.2 Volts and 48 mA 
  (5 mA/cm² on 6 cm² electrodes) 

- Power supply: 
  Lithium battery, sufficient for more than 14,000 ER-measurements or 3,300 LPR measurements (>3 years, depending on system configuration) 

- Battery backup, on-line system: 
  NiCd battery, sufficient for more than 1000 ER-measurements or 250 LPR measurements if charging is interrupted (depending on system configuration) 
  In on-line systems, NiCd batteries are continuously charged through the FieldBus cable 

### Ordering Information

When ordering, please specify the number(s) and type(s) of probes, their manufacturer, and length of cable required (recommended max 15 m from probe to MultiLog). 

Possible probe combinations: 
- 0 to 5 ER probes 
- 1 of the following electrochemical probes: 
  - LPR probe, or a 
  - Galvanic probe, or a 
  - Full polarization probe 

The ER probe channels can be used by CP/voltage signals from reference cells or CP systems with a special cable (2 per channel). 

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Additional and related hardware or software: 
- MultiTrend software 
- Probe Cable 
- MultiCorr basic unit/terminal 
- FieldBus system (for on-line monitoring) 
- Test probe 
- Replacement battery packs 
- CP/voltage signal cable