

Arc Integration into Profibus DP Process Control System

Technical Note

More functionality, better usability with Arc system

Hamilton Arc™ and VisiFerm™ DO sensors provide a digital Modbus® protocol that can be converted into Profibus DP protocol using the Deutschmann Unigate® CL Module. All Arc parameters DO, pH, COND and ORP are supported.

For an easy adaption to Profibus DP, Hamilton developed a conversion script for the Deutschmann Unigate® CL-Profibus Module giving access to the most common Modbus register. In cooperation with Sanofi-Aventis (Frankfurt/Germany) Hamilton Arc™ sensors were tested successfully on their Profibus DP Yokogawa System (Master Device), using a Deutschmann Unigate® CL Module.

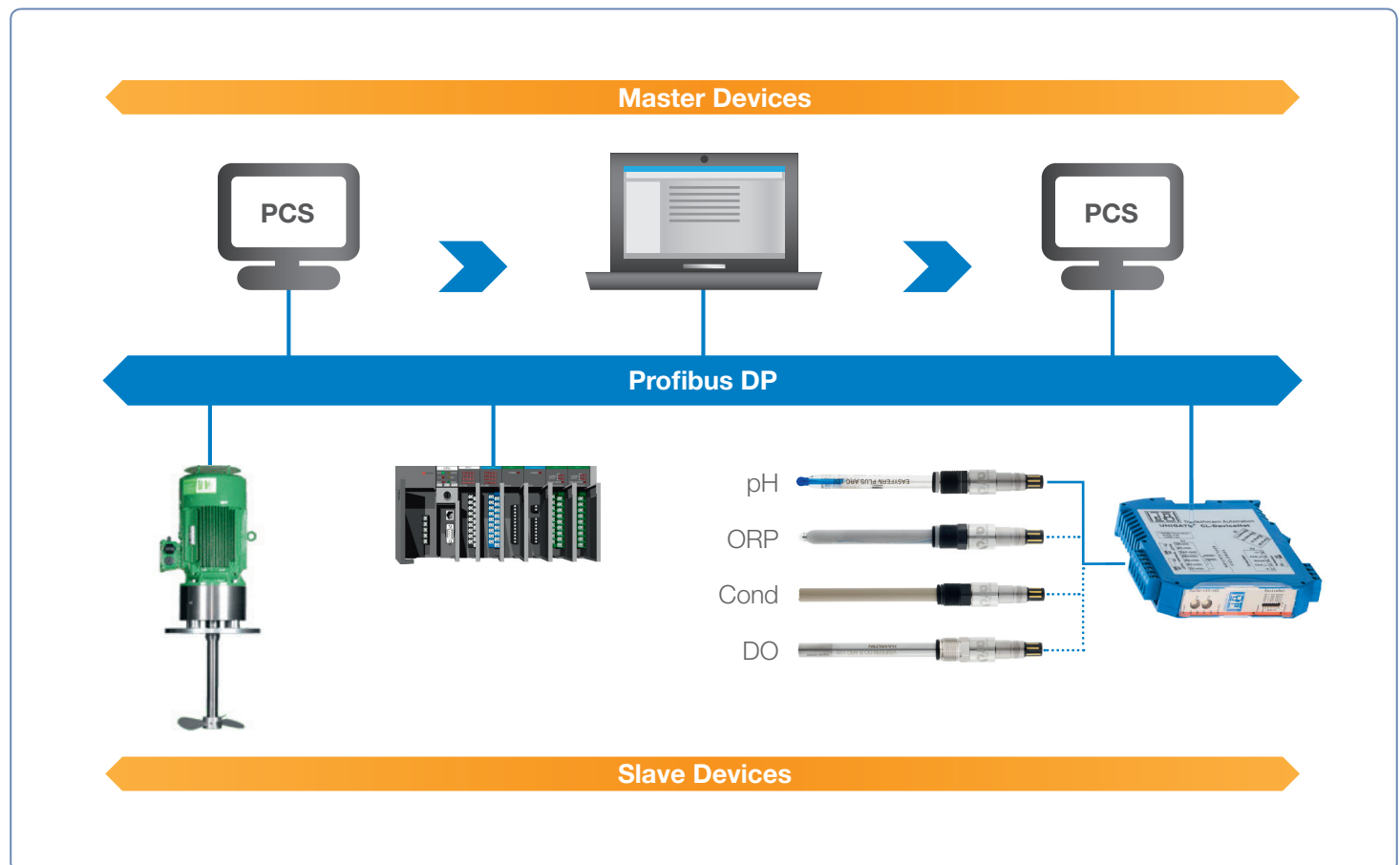


Fig. 1: Arc integration into a Profibus DP network

The following Arc sensor information are accessible through Profibus conversion script:

| DO | pH | COND | ORP |
|--|---|---|---|
| Measurement value | Measurement value | Measurement value | Measurement value |
| Temperature value | Temperature value | Temperature value | Temperature value |
| Sensor Status | Sensor Status | Sensor Status | Sensor Status |
| Function Code Profibus | Function Code Profibus | Function Code Profibus | Function Code Profibus |
| Profibus Communication Status | Profibus Communication Status | Profibus Communication Status | Profibus Communication Status |
| Sensor name | Sensor name | Sensor name | Sensor name |
| WO Number | WO Number | WO Number | WO Number |
| WO Date | WO Date | WO Date | WO Date |
| Sensor ID | Sensor ID | Sensor ID | Sensor ID |
| Measuring point | Measuring point | Measuring point | Measuring point |
| Quality indication | Quality indication | Quality indication | Quality indication |
| Operation Hours | Operation Hours | Operation Hours | Operation Hours |
| Operation Hours for Calibration in Zero Oxygen | Operation Hours for Calibration Point 1 | Operation Hours for Calibration Point 1 | Operation Hours for Calibration Point 1 |
| Operation Hours for Calibration in Air | Operation Hours for Calibration Point 2 | Offset resistance [Ω] | Zero Point (25°C) in mV |
| Zero point (25°C) | Zero Point (25°C) in mV | Cell constant | Slope (25°C) |
| Sensitivity (25°C) | Slope (25°C) | Selected Calibration Standard | Selected Calibration Standard |
| Zero Oxygen: Calibration value | Selected Calibration Standard | Resistance | Glass Resistance |
| Zero Oxygen: Calibration Temp. | Glass Resistance | CP1: Calibration value | CP1: Calibration value |
| Air: Calibration value | CP1: Calibration value | CP1: Calibration Temperature | CP1: Calibration Temperature |
| Air: Calibration Temperature | CP1: Calibration Temperature | CP1: Active Calibration Standards | CP1: Active Buffer |
| Warnings | CP1: Active Buffer | Warnings | Warnings |
| Errors | CP2: Calibration value | Errors | Errors |
| | CP2: Calibration Temperature | | |
| | CP2: Active Buffer | | |
| | Warnings | | |
| | Errors | | |

Additional sensor information can be added on request into the conversion script.

Note: Deutschmann Automation Unigate® CL Profibus Module supports only one Arc sensor at the same time.

The following components are needed for the Profibus DP connection

| P/N | Description |
|--------|--|
| 243555 | Deutschmann Automation Unigate® CL Profibus Module with preinstalled Modbus-Profibus conversion Script |
| 624719 | Modbus-Profibus Programmer's Manual (Free download from: www.hamiltoncompany.com) |
| n.a. | GSD-Deutschmann Automation Unigate® CL Profibus Module Integration File into the Profibus DP network (Free download from: www.hamiltoncompany.com) |

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