The Future is Digital
The Future is Digital

Topics

- Reducing Footprint and Wiring - Even Further
- Smart Discrete Devices
- Flexibility to Handle Changes
- Reducing Device Count
- Eliminating the Last Proprietary Protocols
- Remote Applications
Reducing Footprint and Wiring - Even Further

Integrated Fieldbus Power Supply
Hardwired Marshalling - Well Known, Labor Intensive, Hardware
Fieldbus with Separate Device Power Supply - Now Almost ‘Traditional’
Fieldbus with Integral Device Power Supply
- No Marshalling Cabinet

CONTROLLERS & INTERFACES WITH POWER

FIELDBUS

The Future is Digital.
Smart Discrete Devices

Intelligence in on/off devices
On/Off Valves
- Hardwired

DO (DC)
DI (DC)
AO (mA)
AI (mA)
DO (AC)
DI (AC)

I/O
MARSHALLING

3X

ON/OFF VALVE
Intelligent On/Off Valves - Fieldbus

FIELDBUS

FF (H1)

I/O

FIELDBUS ON/OFF VALVE
On/Off Valve Intelligent Device Management: Diagnostics & Setup

- NO DIAGNOSTICS
- TRAVEL TIME
- CYCLE COUNTS
- STUCK VALVE

3X
Flexibility to Handle Changes

Virtual Marshalling
Hardwired Marshalling
- On/Off Valve
Hardwired Marshalling - Redesign for Control Valve

I/O

DO (DC)
DI (DC)
AO (mA)
AI (mA)
DO (AC)
DI (AC)

MARSHALLING

FTA
FTA
FTA

2-3X

CONTROL VALVE
Hardwired Marshalling
- Redesign for Electric Actuator (MOV)

I/O

MARSHALLING

DO (DC)

DI (DC)

AO (mA)

AI (mA)

DO (AC)

DI (AC)

MOTOR OPERATED VALVE (MOV)

6-16X

The Future is Digital.
Virtual Marshalling: Flexibility
- For Fieldbus Device Type Doesn’t Matter

I/O

FF (H1)

FIELDBUS

ON/OFF VALVE
Virtual Marshalling
- No Card or Wire Redesign

I/O

FF (H1)

FIELDBUS

CONTROL VALVE
Virtual Marshalling
- No Card or Wire Redesign

I/O

FF (H1)

FIELDBUS

MOTOR OPERATED VALVE
Reducing Device Count

Multi-Input Transmitters
Single Point Temperature Transmitters
Multi-Input Fieldbus Temperature Transmitters
Eliminating the Last Proprietary Protocols

Fieldbus in complex devices reduce wiring the most
Complex Devices Have Many Signals

- DI (DC)
- DO (AC)
- AI (mA)
- AO (mA)

I/O | MARSHALLING | ELECTRIC ACTUATOR

- Running
- Open command
- Stop command
- Close command
- Stopped
- Available
- Local
- Low battery
- Opened feedback
- Closed feedback
- Position
- Torque
- Overheat
- Over-torque
“Virtual Marshalling” of Intelligent MOV in Software
Eliminate Proprietary Protocols, Gateways, and Proprietary Software
Intrinsically Safe Two-Wire Intelligent Tank Gauging System
IPAS: Integrated Process Analyzer System - Shared Infrastructure

The Future is Digital.
FOUNDATION fieldbus as “Electronic Sampling Line”
Intelligent Remote Application Solutions

Fieldbus Remote Terminal Units
RTU - Hardwired

DI (DC)
HART
AO (mA)
AI (mA)
DO (DC)
DI (DC)

MULTIDROP (1.2 kbit/s)

RTU
RTU - Fieldbus

FIELDBUS (31.25 kbit/s)

• TRAVEL TIME
• CYCLE COUNTS
• STUCK VALVE
Summary

- Reducing footprint and wiring further than ever
- Smart discrete devices
- Flexibility to handle changes
- Reduce device count
- Eliminating the last proprietary protocols
- Intelligent remote applications