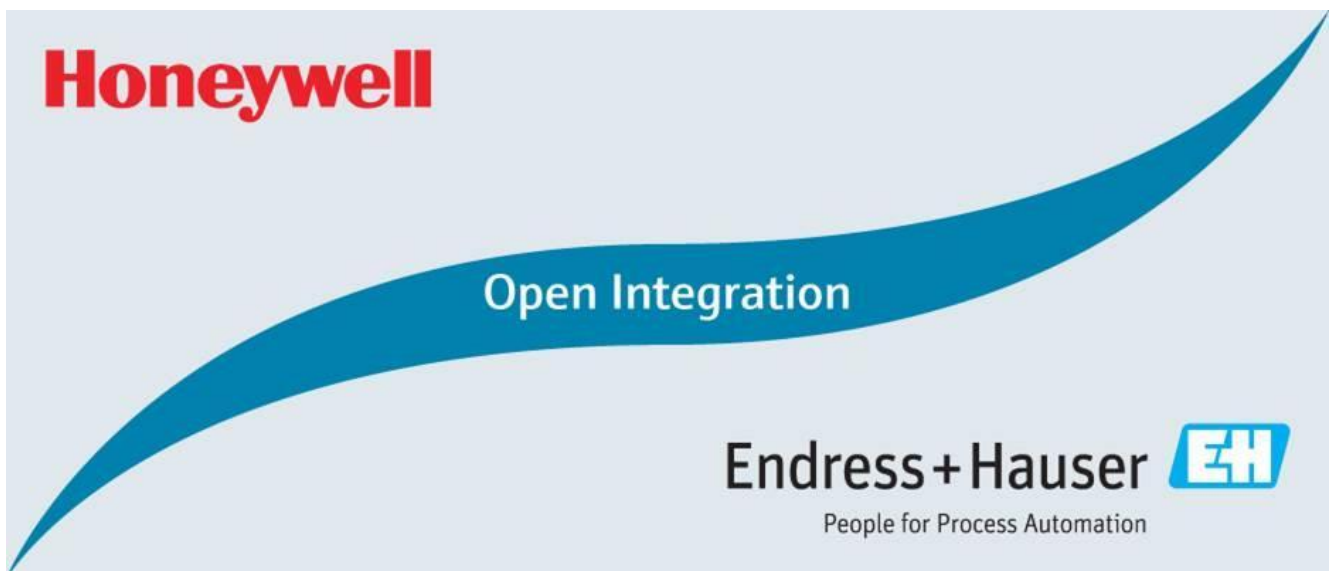


## Reference Topology HON02

Honeywell Experion<sup>®</sup>PKS and PROFIBUS for  
Chemical Industry





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## 1 Document Information

### 1.1 Purpose and Scope

This document specifies the Open Integration Reference Topology HON02. All content of this document is jointly developed, reviewed and released by Honeywell Process Solutions and Endress+Hauser as a common deliverable of Open Integration.

### 1.2 Document History

This is version 1.00.00 of this document. Version history:

Version	Released	Description
1.00.00	2017-12	Initial version

### 1.3 Related Documents

Please refer to related documents as listed below:

Document	Description
SD02063S/04/EN/01.17	Integration Tutorial HON02
SD02064S/04/EN/01.17	Integration Test Summary HON02
SD02065S/04/EN/01.17	List of Tested Devices and Versions HON02

## 2 Target Market

### 2.1 Industry Application

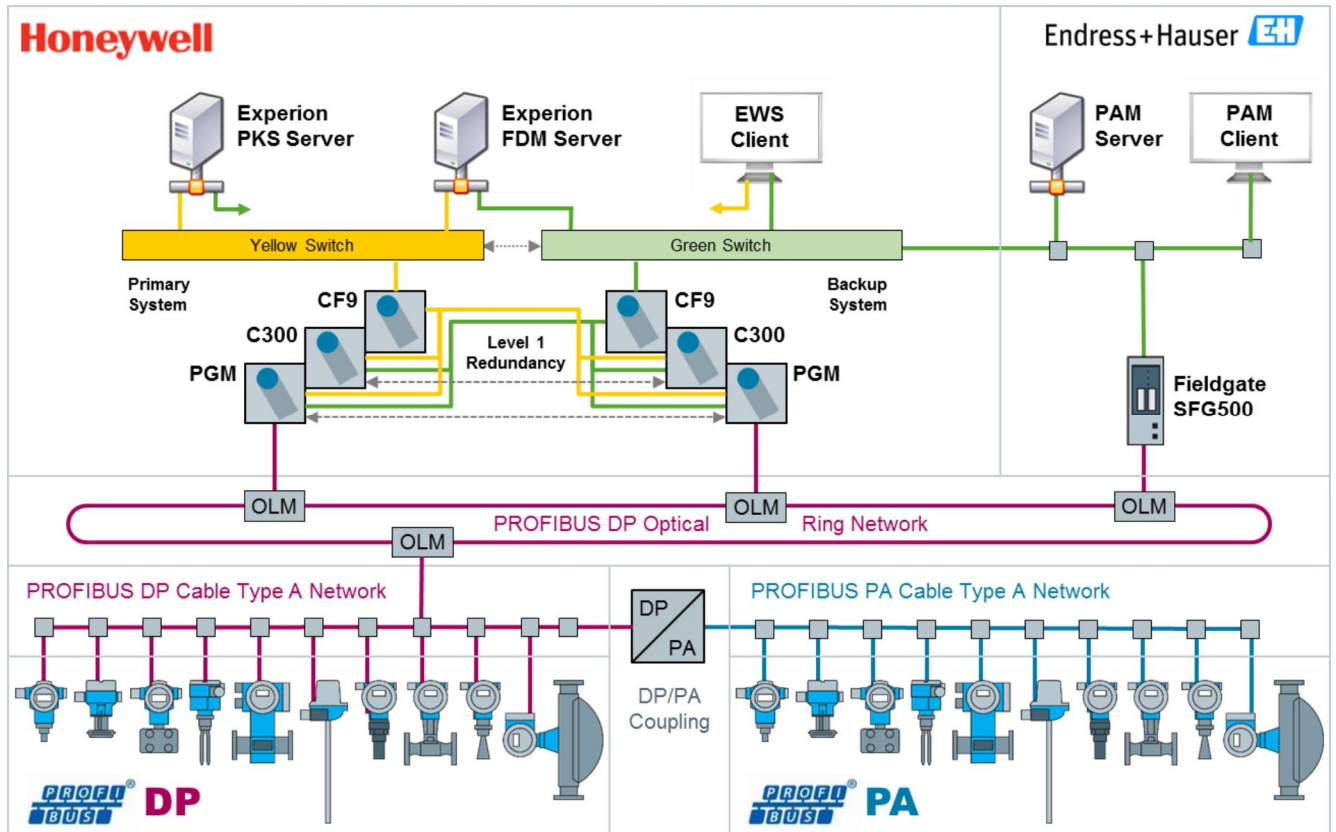
This reference topology is designed to serve applications in Chemical industry.

### 2.2 Fieldbus Technology

This reference topology is designed for instrumentation with PROFIBUS DP and PROFIBUS PA.

## 3 Reference Topology

### 3.1 Overview







### 3.2 Process Control System

The process control system part top left in the overview is provided by Honeywell Process Solutions:

The yellow and green switches establish a redundant Ethernet backbone for all Honeywell Experion®PKS servers, workstations and control units. Each control unit consists of at least two CF9 control firewall modules and two C300 controller modules to provide level 1 redundancy. PGM modules serve to connect to the underlying PROFIBUS DP/PA network. Core element on top of the system backbone is the Experion®PKS software for control engineering, complemented with Experion®FDM software for asset management.

Reference hardware:



 Article	Description
 Experion®PKS Processor: CC-PCF901 IOTA: CC-TCF901	Control Firewall with 9 ports (CF9)
 Experion®PKS Processor: CC-PCNT02 IOTA: CC-TCNT01	C300 Controller
 Experion®PKS Processor: CC-IP0101 IOTA: CC-TP0X01	PROFIBUS Gateway Module with 2 DP segments (PGM2)

### 3.3 Asset Management System

The asset management system part top right in the overview is provided by Endress+Hauser:

FieldCare or PAM Suite Servers and Clients may access the underlying PROFIBUS/DP/PA fieldbus network either via system backbone and hardware of the control system, or independently via Fieldgate SFG500.

Reference hardware:

 Article	Description
 Fieldgate SFG500 SFG500 SFM500-A1	Ethernet / PROFIBUS DP gateway Asset Management Module for Fieldgate SFG500



Complementary to this, Endress+Hauser also supports integral means of Honeywell with device drivers for Experion®FDM.

## 3.4 Field Network Infrastructure

### 3.4.1 PROFIBUS DP Optical Ring Network

The PROFIBUS DP Optical Ring Network is optional for this reference topology, with limited impact to integration tests. If applied, Honeywell Process Solutions and Endress+Hauser recommend using optical link modules from R.STAHL for this reference topology.

Recommended hardware:

	Article	Description
Mediaconverter 	9186/15-12-11	Safe area/Zone 2 installation; RS485 / FO "op is"; ring

For optical network a multimode cable with ST-connectors (BFOC/2,5 plug) is required. Optical ring is suitable for installation of the optical network in a Zone 1 or Zone 2 environment.



### 3.4.2 PROFIBUS DP Cable Type A Network

The PROFIBUS DP Cable Type A Network is mandatory for this reference topology, with limited impact to integration tests. Specific reference hardware for this part is not yet defined; recommendable hardware may be listed here in future.

### 3.4.3 PROFIBUS DP/PA Coupling

The PROFIBUS DP/PA Coupling is mandatory for this reference topology, with decisive impact to integration tests. Honeywell Process Solutions and Endress+Hauser recommend using the SK3 Power Hub from Pepperl+Fuchs for this reference topology.


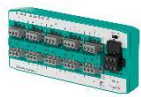

Reference hardware:




 PEPPERL+FUCHS	Article	Description
SK3 Power Hub 	MB-FB-GT	Gateway motherboard
	MBHC-FB-4.HSC	Fieldbus Power Hub Motherboard
	HD2-GTR-4PA	Gateway module
	HCD2-FBPS-1.500	Fieldbus Power Supply Module
	HD2-DM-A	Diagnostic module
	ACC-MB-HSK	Shielding/grounding kit

### 3.4.4 PROFIBUS PA Cable Type A Network

The PROFIBUS PA Cable Type A Network is mandatory for this reference topology, with limited impact to integration tests. Honeywell Process Solutions and Endress+Hauser recommend equipment provided by Pepperl+Fuchs and R.STAHL for this reference topology.

Recommended hardware:

 PEPPERL+FUCHS	Article	Description
Segment Protector 	R2-SP-IC*	Fieldbus device coupler for safe area or Zone 2 application. Optional 4, 6, 8 or 10 spurs.
Field Barrier 	R4D0-FB-IA*	Fieldbus device coupler for Zone 1 application. Optional 8, 10 or 12 spurs. Compliant to FISCO and Entity concept.

 STAHL	Article	Description
Field Device Coupler Zone 2 Ex n 	9410/34-*	Fieldbus device coupler for safe area or Zone 2 Ex n application. Optional 4, 8 or 12 spurs.
Field Device Coupler Zone 1 Ex i 	9411/21-*	Fieldbus device coupler for Zone 1 Ex i application. Optional 4 or 8 spurs. Compliant to FISCO concept.




## 3.5 Field Devices

Open Integration reference topologies always have to be tested versus a selection of most relevant field devices for the target market defined in chapter 2.1. This serves to verify that the system under test is capable to handle a necessary variety of certified field devices. All field devices are fully compliant to standards, but may be implemented versus different version of standards and each field device typically implements only a subset of relevant compliant means.

This chapter defines only a basic set of mandatory field devices for verification of this reference topology, as agreed by Honeywell Process Solutions and Endress+Hauser. For more details, please refer to latest list of tested devices and versions for this reference topology, referenced in chapter 1.3.




### 3.5.1 PROFIBUS DP devices

Reference hardware:

 Endress+Hauser People for Process Automation	Article	Description	Device Type
Promass 83 	83F	Coriolis Flow Transmitter	0x1529
Promag 53 	53P	Electromagnetic Flow Transmitter	0x1526

### 3.5.2 PROFIBUS PA devices

Reference hardware:

 Endress+Hauser People for Process Automation	Article	Description	Device Type
Omnigrad M 	TR10+TMT84	Temperature Transmitter	0x1551
Cerabar S 	PMC71	Absolute and Gauge Pressure Transmitter	0x1541

Reference hardware:

Endress+Hauser  <small>People for Process Automation</small>	Article	Description	Device Type
Liquiphant 	FTL51	Vibronic Point Level Detection	0x152B
Deltabar S 	PMD75	Differential Pressure Transmitter	0x1542
Micropilot 	FMR51	Radar Level Transmitter	0x1559
Cerabar M 	PMP51	Absolute and Gauge Pressure Transmitter	0x1553
Gammapilot 	FMG60	Radiometric Level and Density Transmitter	0x1548
Prowirl 200 	7F2B	Vortex Flow Transmitter	0x1564
Levelflex 	FMP51	Guided Radar Level Transmitter	0x1558
Liquiline M 	CM42 CPS11D CYK10	Liquid Analyzer Transmitter Memosens Digital pH Sensor Memosens Digital Data Cable	0x1543 0x1544 0x154B