Reference Topology HON01

Honeywell Experion PKS and FOUNDATION Fieldbus for Oil & Gas Industry

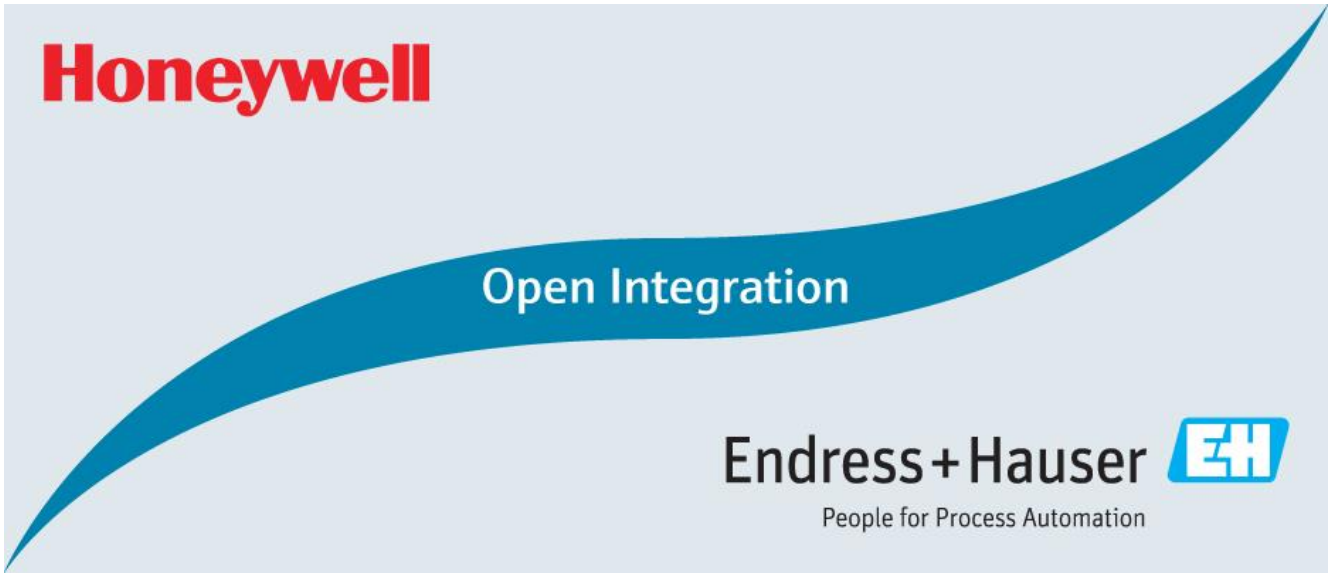


Table of Contents

1 Document Information

1.1 Purpose and Scope

This document specifies the Open Integration Reference Topology HON01. 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	2017-04	Initial version

1.3 Related Documents

Please refer to related documents as listed below:

Document	Description
SD01852S/04/EN/01.17	Integration Tutorial HON01
SD01853S /04/EN/01.17	Integration Test Summary HON01
SD01854S /04/EN/01.17	List of Tested Devices and Versions HON01

2 Target Market

2.1 Industry Application

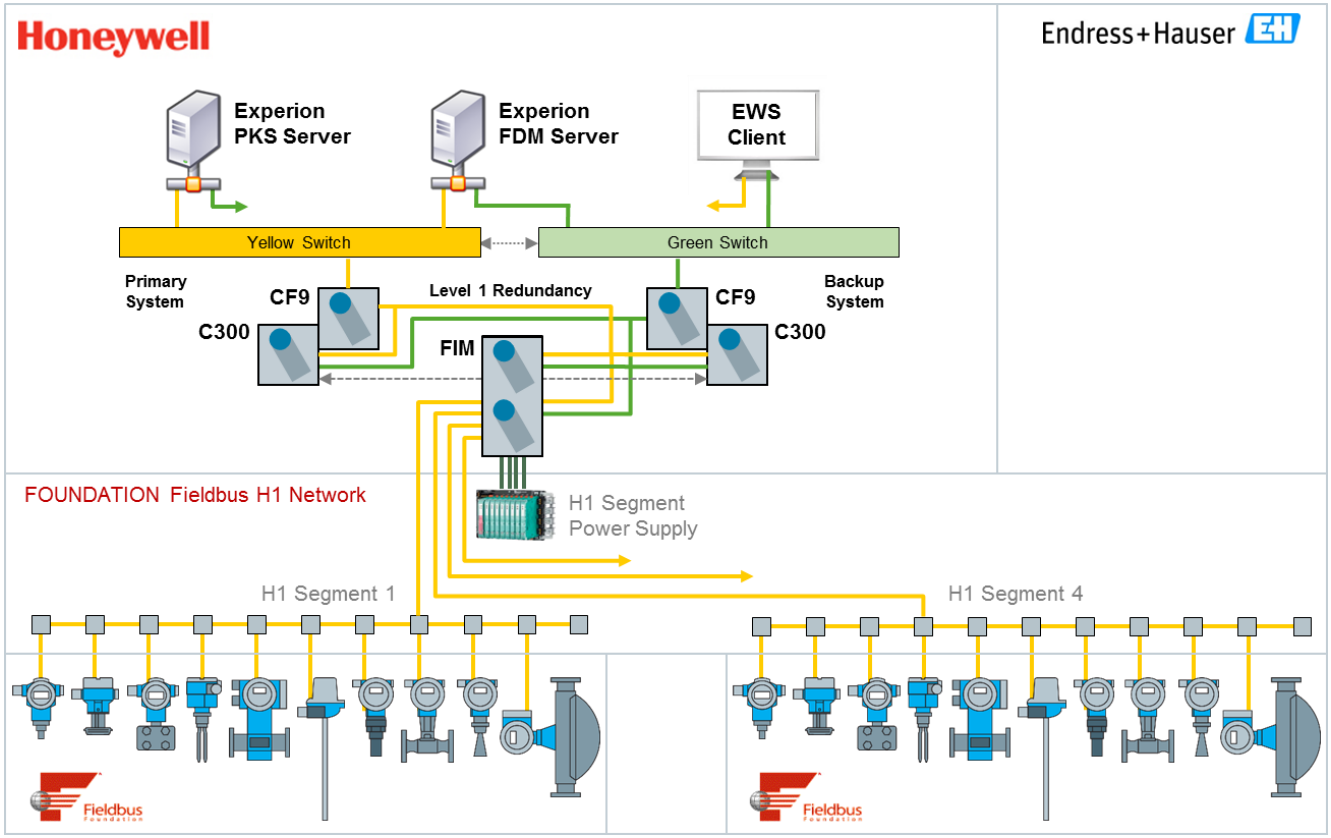
This reference topology is designed to serve applications in Oil & Gas industry.

2.2 Fieldbus Technology

This reference topology is designed for instrumentation with FOUNDATION Fieldbus.

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 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. Redundant FIM modules serve to connect to underlying FOUNDATION Fieldbus networks. A redundant FIM module may connect up to four H1 segments. 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:

Honeywell	Article	Description
Experion PKS 	CF9	C Series Control Firewall with 9 ports
Experion PKS 	C300	C Series Controller
Experion PKS 	FIM4-R	C Series Fieldbus Interface Module (redundant)

3.3 Asset Management System

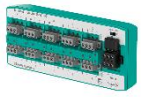
The asset management for FOUNDATION Fieldbus devices is an integral part of the Honeywell process control system. Endress+Hauser supports this with device drivers for Honeywell Experion FDM.

3.4 Field Network Infrastructure

3.4.1 FOUNDATION Fieldbus H1 Network

The Foundation Fieldbus H1 Network is mandatory for this reference topology, with limited impact to integration tests. Honeywell Process Solutions and Endress+Hauser recommend using the Pepperl+Fuchs components listed below.

Reference hardware:

PEPPERL+FUCHS	Article	Description
Power Hub 	MBHC-FB-4R.HSC	Motherboard for Compact Fieldbus Power Hub; Host system connector, 4 segments, redundant
	HCD2-FBPS-1.500	Fieldbus power supply module for standard application; Output values 28 V @ 500 mA
	HCD2-FBPS-1.23.500	Fieldbus power supply module for Ex ic application; Output values 21 V @ 500 mA (U_O = 24 VDC)
	HD2-DM-A	Advanced physical layer diagnostic module (optional)
	ACC-MB-HGC.HON.*	Interconnection cable for Fieldbus Power Hub and Honeywell FIMs. Optional 1, 2, 3, 4, 10 15 or 20 m.
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 or12 outputs. Compliant to FISCO and Entity 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 FOUNDATION Fieldbus H1 Devices

Reference hardware:

Endress+Hauser People for Process Automation	Article	Description	Device Type
Cerabar S 	PMP71	Absolute and Gauge Pressure Transmitter	0x1007
Deltabar S 	PMD75	Differential Pressure Transmitter	0x1009
Deltapilot S 	FMB70	Hydrostatic Level Transmitter	0x100B
Omnigrad S 	TR88+TMT85	Thermometer with Head Transmitter	0x10CE
iTEMP 	TMT162	Temperature Field Transmitter	0x10CC

Endress+Hauser People for Process Automation	Article	Description	Device Type
Micropilot 	FMR51	Radar Level Transmitter	0x1028
Levelflex 	FMP54	Guided Radar Level Transmitter	0x1022
Promag 53 	53P	Electromagnetic Flow Transmitter	0x1042
Promass 83 	83F	Coriolis Flow Transmitter	0x1051
Promass 200 	8F2B	Coriolis Flow Transmitter	0x1054
Prowirl 200 	7F2B	Vortex Flow Transmitter	0x1038

FLOWSERVE	Article	Description	Device Type
Logix 3400MD 	3400MD	Digital Valve Positioner	0x0203

www.endress.com/open-integration