



800xA - Device Management Foundation Fieldbus

Device Type Flowserve D3

Release Notes

Version 5.0

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Introduction

This document represents the release notes for the device type *Flowserve D3*.

This document provides a brief overview on functionality. It also enumerates known problems encountered in the final interoperability testing and identifies workarounds that help overcome the problem. The document contains additional notes that may be valuable to customers and service personnel working with this device type.

Device Type Details

Table 1. Device Type Details

Vendor	Flowserve
Device Type	D3
Category	Positioner
Device ID (DEV_TYPE)	0x00D3
(Device Revision, DD Revision)	02, 02
Device Firmware	9FF1

New in this Version

Table 2. Revision History

Library Wizard Name	Changes
Flowserve D3 V5.0-FF	First Release 2PAA111600S01_x_en_System_800xA_Flowserve_ D3_V5_0_DeviceObjectType_FF.exe

The above version will result in device object type **D3_v5** the Plant Explorer.

Supported System

Table 3. System 800xA

System Requirements	800xA 5.1 FP3 or Higher System Versions
Supported Controller	Controller AC 800M (via CI 860)
Linking Device	LD 800HSE

Restrictions

FOUNDATION Fieldbus device types are created by ABB and tested for use in the 800xA system in connection with Device Management FOUNDATION Fieldbus. ABB creates these device types based on data provided by individual device vendors (e.g. DDs and Asset Monitor behavior specifications), which ABB relies on as accurately reflecting the actual device specification and behavior. Therefore, ABB cannot assume liability for events that are caused by devices that are not functioning according to fieldbus standards, or device specifications, or for events that are caused by mismatches between the device behavior and the input data provided by the device vendor.

Installation



This object type can be installed with the Device Library Wizard tool only. For more details, refer to ABB Device Library Wizard, User Instructions (2PAA102573R5021).

Device Object Type Functionality in 800xA



For details about functionality and how to use it, refer to the documentation related to 800xA's device management software for FOUNDATION Fieldbus (3BDD012902-510_C).

Documentation

Please select the following aspects in *Product Documentation* aspect to view documentation related to this device type.

1. Installation and Operation Manual
2. Product Information

Faceplate

Standard faceplates are provided for standard blocks supported by the device.

Alarms and Events

FF Alarms and Events have been enabled for all blocks of this device.

Loop Mode Behavior

This functionality detects an abnormal device status using the device diagnostic bits available in FF blocks. Whenever bad PV is detected, loop mode sheds to manual and the condition is indicated by graphics and faceplate color change.

The below parameter sets are available to the user as default value sets.

Resource Block

SHED_RCAS = 640000

SHED_ROUT = 640000

AO Block

STATUS_OPTS = +Propagate Fail Forward

SHED_OPT = Normal Shed_Normal Return

PID Block

CONTROL_OPTS = +No output limits in MAN

+Restrict SP to limits in CAS and RCAS

STATUS_OPTS = +Target to MAN if Bad IN

SHED_OPT = Normal Shed_Normal Return

Default Permitted Control Modes

This functionality allows FF blocks to operate with various control modes. The below mentioned permitted control modes are applied as default value sets to various FF blocks.

Table 4. Default Permitted Control Modes

FF Blocks	Permitted Control Modes
Resource and Transducer Block	<ul style="list-style-type: none">• Out of Service Mode• AUTO Mode
AO Block	<ul style="list-style-type: none">• Out of Service Mode• MAN Mode• AUTO Mode• CAS Mode
PID Block	<ul style="list-style-type: none">• Out of Service Mode• MAN Mode• AUTO Mode

Application Related Settings

This functionality enables the device parameters within the FF blocks to be adapted according to the application needs. The user can select any of the below mentioned applications as needed.

Table 5. Application Related Settings

SL. No	Applications	Supported
AO Block		
1	Application AO1	X
2	Application AO2	X
PID Block		
1	Single Loop	X
2	Cascaded Loop	X

Application AO1

IO_OPTS = +SP tracks PV if MAN

+SP tracks PV if LO

SP_RATE_DN = +INF

SP_RATE_UP = +INF

SP_HI_LIM = 100.0

SP_LO_LIM = 0.0

Application AO2

IO_OPTS = +SP tracks PV if MAN

+SP tracks PV if LO

+PV for BKCal_Out

SP_RATE_DN = +INF

SP_RATE_UP = +INF

SP_HI_LIM = 100.0

SP_LO_LIM = 0.0

Single Loop

PV_FTIME = 0.0

BYPASS = OFF

SP_RATE_DN = +INF

SP_RATE_UP = +INF

SP_HI_LIM = 100.0

SP_LO_LIM = 0.0

GAIN = 1.0

RESET = 10.0

BAL_TIME = 0.0

RATE = 0.0

OUT_HI_LIM = 100.0

OUT_LO_LIM = 0.0

BKCAL_HYS = 0.5

CONTROL_OPTS = + No output limits in MAN

+Restrict SP to limits in CAS and RCAS

PERMITTED_MODES = O/S + MAN + AUTO

Cascaded Loop

Same settings like single loop except for

CONTROL_OPTS = + No output limits in MAN
 + Restrict SP to limits in CAS and RCAS
 + SP-PV track MAN
 + SP-PV track LO or IMAN
 + SP-PV track ROUT

PERMITTED_MODES = O/S + MAN + AUTO + CAS

Asset Optimization

This functionality requires installation of 800xA Asset Optimization software and can be used if the corresponding system extensions have been loaded.



For more details, refer to AO Configuration manual (3BUA000118-510_D) and AO Operation manual (3BUA000150-510_C).

Asset Optimization Functionality for this device is available in aspect **FF Generic Device Asset Monitor NE107**.

Table 6. Asset Optimization Functionality

Asset Monitor(s)	FF Generic Device Asset Monitor NE107
Asset Reporter / Viewer	Yes
CMMS Connectivity	Maximo, SAP

Table 7. Asset Monitor Conditions

SI. No.	Conditions ⁽¹⁾	Description	Severity	Supported
Configuration Status				
0	Normal		1	X
1	Failure	Device configured to be Out of Service or initializing	990	X
2	Failure	Device Out of Service or initializing	989	X
3	Failure	Device is Out of Service due to a configuration error in its Resource Block.	988	X
4	Failure	Device is Out of Service due to a configuration error in its Transducer Block.	987	X
Hardware Status				
0	Normal		1	X

Table 7. Asset Monitor Conditions (Continued)

Sl. No.	Conditions ⁽¹⁾	Description	Severity	Supported
1	Failure	Malfunction of electronic memory.	990	X
2	Failure	Non specific failure. Device functionality lost.	989	X
3	Failure	Readback Check Failed. The actuator is unable to reach its output position.	988	X
4	Failure	Non specific failure. Sensor or Actuator functionality lost.	987	X
5	Failure	The device's fault state behavior is active.	986	X
6	Maintenance required (now)	Maintenance required now.	250	X
7	Maintenance required (soon)	Maintenance is required soon.	100	X
Operating Conditions				
0	Normal		1	X
1	Failure	Malfunction in actuator positioning due to an open circuit.	990	X
2	Failure	Malfunction in sensor input or actuator positioning.	989	X
3	Maintenance required (soon)	Device just powering up or Transducer Block is Out of Service.	100	X

(1) Conditions 1 to 3 as from "FF Generic Device Asset Monitor NE107".



The Asset Monitor is NAMUR NE107 conform based on severity levels. However, a project defined adjustment of the severity levels is possible and supported. Be aware that the order of occurrence of alarms are based on severity levels. Modifications in severity level may result in alarm generation that is not in synchronization with the vendor specifications and NAMUR NE107. For more details on Asset Monitors refer:

2PAA104701R5021_DeviceTypesAssetMonitorHandling&SeverityLevels.pdf

Known Problems

[Table 8](#) lists issues that may exist and affect the operation of the device type at time of release. Workarounds, clarifications, or helpful hints have been provided for each issue wherever possible.

Table 8. Known Problems

Issue	Workaround

Limitations

- Device does not support backup master.

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