800xA - Device Management PROFIBUS

Device Type EMG Drehmo I-Matic Version 1.0

Release Notes

Introduction

This document represents the release notes for the device type *EMG Drehmo I-Matic.*

This document provides a brief overview on functionality. It also enumerates known problems encountered in the final interoperability testing with the related device hardware. 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	EMG Drehmo
Device Type	I-Matic
Category	Actuator
Protocol	PROFIBUS DP
PNO ID	0x0824
GSD File Version / Date	3 / 2005-02-17
Hardware/Software Revision	"V02 "/ " V1.05.0052"(1)

(1) For the interoperability test with the physical device the listed hardware and software revision has been used. The user has to verify that the connected device meets above version requirements or is compatible with above versions.

New in this Version

Table 2. Revision History

Library Wizard Name	Changes
EMG Drehmo I_Matic V1.0-DP	First Release. Available with 2PAA103570S01_x_en_DeviceObjectType_EMG_Drehmo_I_Matic_V1_0_DP.exe

The above version will result in device object type EDR_I_Matic_DP_v1_0 if installed in SV4.1 Rollups Released November 2007 or higher, but less than System 800xA 5.0 SP1.

If installed in System 800xA 5.0 SP1 or higher it will result in Hardware Library EDR_I_Matic_DP Version 1.0-0.

Supported System

Table 3. System 800xA (pre System 800xA 5.0 SP1)

System Requirements	800xA SV4.1 Rollups Released November 2007 or higher system versions (but less then System 800xA 5.0 SP1)
Hardware Definition File	DREM0824_v1_0.hwd
Supported Controller / PROFIBUS Master	Controller AC 800M / CI 854(A)
Supported Linking Devices	Not Applicable

Table 4. System 800xA (System 800xA 5.0 SP1 onwards)

System Requirements	800xA System 800xA 5.0 SP1 or higher system versions(1)
Hardware Library	EDR_I_Matic_DP Version 1.0-0
Supported Controller / PROFIBUS Master	Controller AC 800M / CI 854(A)
Supported Linking Devices	Not Applicable

(1) Check ABB SolutionsBank for Field Notification, to find out if this device type has any further limitations.

Restrictions

PROFIBUS device types are created by ABB and tested for use in the 800xA system in connection with Device Management PROFIBUS & HART. ABB creates these device types based on data provided by individual device vendors (e.g. EDDs, GSDs, device-specific Device Type Managers (DTMs) 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.

Device types installed via Device Library Wizard cannot be used or instantiated if the associated DTM is not installed.

Device-specific DTMs need to be installed on every 800xA system node on which the Device Management PROFIBUS & HART is executed. The DTM-specific licensing arrangements need to be taken into account.

DTMs installed on an 800xA system node must not be removed manually by the user unless explicitly described.

Installation

This object type can be installed with the Device Library Wizard tool only. For more details, please refer to ABB Device Library Wizard, User Instructions (3BDD011857R0101) in SV4.1 and ABB Device Library Wizard, User Instructions (2PAA102573R5011) in System 800xA 5.0 SP1.

Device Type, Modules and Channels

Since System 800xA version 5.0 onwards the implementation and usage of PROFIBUS device types is different to previous 800xA system versions. Main difference between pre System 800xA 5.0 SP1 and System 800xA 5.0 SP1 is not to have object types for device types and corresponding modules, but to have a hardware library.

For detailed information, please refer to the specific system documentation for configuration and operation of PROFIBUS device types.

Table 5 lists the device type and corresponding module types.

System 800xA 5.0 SP1 onwards all released device and module types are included in the hardware library of the device type.

Table 5. Module/Device Types according to GSD

Object Type	Description
Pre System 800xA 5.0 SP1: EDR_I_Matic_DP_v1_0 System 800xA 5.0 SP1 Onwards: EDR_I_Matic_DP	Device object type(Slave), must be configured first with associated PROFIBUS address.

Table 5. Module/Device Types according to GSD

Object Type	Description
Pre System 800xA 5.0 SP1: EDR_I_Matic_Dv1_PPO1_Bytes_10IN_4OUT System 800xA 5.0 SP1 Onwards: PPO1_Bytes_10IN_4OUT	Module contains the following 14 bytes data structure with 10 bytes input and 4 bytes output. Inputs: 1 Byte-->Dint : Position High Byte4 Byte -> Real - Measured Millivolts 1 Byte-->Dint : Position Low Byte 1 Byte-->Dint : Position Status 1 Byte--> 8 Bool : Signal1 Fault : Signal2 Fault : Phase Failure : Internal Failure 24V DC : External Failure 24V DC : Torque in Open direction : Torque in Close direction : Drive in Fail Safe 1 Byte---> 8 Bool :Drive Travels to OPEN :Drive Travels to CLOSE :Drive at end of travel position OPEN :Drive in end of travel position CLOSE :Drive at end of travel position OPEN+Drehmo :Drive in end of travel position CLOSE +Drehmo :Motor too hot :Drive remote-controlled

Table 5. Module/Device Types according to GSD

Object Type	Description
	1 Byte---> 8 Bool :Drive locally controlled :Drive in local operation :Activation of discrete commands :Drive in learn mode :Not Used :limit switch-off in OPEN by torque :limit switch-off in CLOSE by torque :Start-up bridging in OPEN active 1 Byte---> 8 Bool :Start-up bridging in CLOSE active :Drive is not in mode remote :Emergency travel active :fail-safe behaviour :timer operation active :Intermediate position 1 :Intermediate position 2 :Drive does not start 1 Byte---> 8 Bool :Torque warning OPEN :Torque warning CLOSED :No setpoint :Hardware fault :Combined sensor defective :system check error :Maintenance required

Table 5. Module/Device Types according to GSD

Object Type	Description
	1 Byte---> 8 Bool :Running time too long :handwheel operation :direction monitor :data transmission on channel 1 :data transmission on channel 2 :channel 1 active transmission line :channel 2 active transmission line 1 Byte-->Dint : Torque Outputs 1 Byte-->Dint :Setpoint value High Byte 1 Byte-->Dint :Setpoint value Low Byte 1 Byte-->Dint :Fault acknowledge 1 Byte---> 8 Bool :Automatic mode :Stop :Close :Open :Emergency Shutdown :Timer operation active :Release of local control :Change of channel

Table 5. Module/Device Types according to GSD

Object Type	Description
Pre System 800xA 5.0 SP1: EDR_I_Matic_Dv1_PPO3_Bytes_8IN_4OUT System 800xA 5.0 SP1 Onwards: PPO3_Bytes_8IN_4OUT	Module contains the following 12 bytes data structure with 8 bytes input and 4 bytes output. Inputs: 1 Byte---> 8 Bool :Drive in end of travel position OPEN :Drive in end of travel position CLOSE :Not Used :Not Used :Drive travels to OPEN :Drive travels to CLOSE :Not Used :Drive in fail-safe 1 Byte---> 8 Bool :Failure motor temperature :General fault signal 1 :Remote operating mode :Not Used :Not Used :Not Used :Torque in the OPEN direction :Torque in the CLOSE direction 1 Byte-->Dint : Position High Byte 1 Byte-->Dint : Position Low Byte 1 Byte :Not Used s

Table 5. Module/Device Types according to GSD

Object Type	Description
	1 Byte---> 8 Bool :Not Used :Not Used :Not Used :Not Used :Not Used :Not Used :Manual wheel operation :Running time too long 1 Byte---> 8 Bool :Not Used :Not Used :Not Used :Not Used :Not Used :Not Used :Drive OPEN with local control :Drive CLOSE with local control 1 Byte-->Dint:Failure indication 2 Outputs 1 Byte---> 8 Bool :Open :Close :Automatic :Fault acknowledge :Not Used :Not Used :Not Used :Not Used

Table 5. Module/Device Types according to GSD

Object Type	Description
	1 Byte-->Not Used 1 Byte-->Dint : Reference value high byte 1 Byte-->Dint : Reference value low byte
Pre System 800xA 5.0 SP1: EDR_I_Matic_Dv1_PPO5_Bytes_15IN_4OUT System 800xA 5.0 SP1 Onwards: PPO5_Bytes_15IN_4OUT	Module contains the following 19 bytes data structure with 15 bytes input and 4 bytes output. Inputs: 1 Byte-->Dint : Position Value High Byte 1 Byte-->Dint : Position Value Low Byte 1 Byte-->Dint : Position Status 1 Byte---> 8 Bool :Signal1 Fault :Signal2 Fault :Phase Failure :Internal Failure 24V DC :External Failure 24V DC :Torque in Open direction :Torque in Close direction :Drive in fail-safe 1 Byte---> 8 Bool :Drive Travels to OPEN :Drive Travels to CLOSE :Drive at end of travel position OPEN :Drive in end of travel position CLOSE :Drive at end of travel position OPEN +Drehmo :Drive in end of travel position CLOSE +Drehmo :Motor too hot :Drive remote-controlled

Table 5. Module/Device Types according to GSD

Object Type	Description
	1 Byte---> 8 Bool :Drive locally controlled :Drive in local operation :Activation of discrete commands :Drive in learn mode :Not Used :limit switch-off in OPEN by torque :limit switch-off in CLOSE by torque :Start-up bridging in OPEN active 1 Byte---> 8 Bool :Start-up bridging in CLOSE active :Drive is not in mode remote :Emergency travel active :fail-safe behaviour :timer operation active :Intermediate position 1 :Intermediate position 2 :Drive does not start 1 Byte---> 8 Bool :Torque warning OPEN :Torque warning CLOSED :No setpoint :Hardware fault :Combined sensor defective :system check error :Maintenance required :Not Used

Table 5. Module/Device Types according to GSD

Object Type	Description
	1 Byte---> 8 Bool :Running time too long :Not Used :handwheel operation :direction monitor :data transmission on channel 1 :data transmission on channel 2 :channel 1 active transmission line :channel 2 active transmission line 1 Byte-->Dint : Torque 1 Byte-->Dint : Analog value1 High Byte 1 Byte-->Dint : Analog value1 Low Byte 1 Byte-->Dint : Analog value2 High Byte 1 Byte-->Dint : Analog value2 Low Byte 1 Byte---> 8 Bool :Process Input1 :Process Input2 :Process Input3 :Process Input4 :Not Used :Not Used :Not Used :Not Used Outputs 1 Byte-->Dint : Setpoint value High Byte 1 Byte-->Dint : Setpoint value Low Byte

Table 5. Module/Device Types according to GSD

Object Type	Description
	1 Byte---> 8 Bool :Fault Acknowledge :Not Used :Not Used :Not Used :Not Used :Not Used :Not Used :Not Used 1 Byte---> 8 Bool :Automatic :Stop :Close :Open :Emergency Shutdown :Timer Operation active :Release of Local Control :Change of Channel

Device Object Type Functionality in 800xA

For details on PROFIBUS device configuration, refer to IndustrialIT 800xA - Device Management, PROFIBUS, Configuration Device (3BDD011750R4101) in SV4.1 and Device Management, PROFIBUS & HART, Configuration (3BDD011934R5011) in System 800xA 5.0 SP1.

Documentation

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

1. DTM Instruction Manual.
2. Operating Manual with Profibus Interface.
3. Profibus Database supplement.
4. Operating Manual.

Device Diagnostics in Control Builder M

Each unit of an device object type has a variable of type Hardware Status (HwStatus). The HwStatus type is displayed as 32 bit integer value for ErrorsAndWarnings (EW) and ExtendedStatus (ES). Table 6 shows the supported diagnostics information provided by the device.

Table 6. Device Diagnostics

Status Bit	HW-Status	Value	Diagnostics Information	Warning /Error	Alarm /Event	Severity
Standard Diagnostics (Available at slave level)						
ExtendedStatus1	Extended Status	16#00000001	Slave does not exist	Error	Alarm	Medium
ExtendedStatus2	Extended Status	16#00000002	Configuration data fault	Error	Alarm	High

Table 6. Device Diagnostics

Status Bit	HW-Status	Value	Diagnostics Information	Warning /Error	Alarm /Event	Severity
ExtendedStatus3	Extended Status	16#00000004	Parameter data fault	Error	Alarm	High
ExtendedStatus4	Extended Status	16#00000008	Static diagnostic	Warning	Event	Low
ExtendedStatus5	Extended Status	16#00000010	Redundant slave does not exist	Warning	Event	Medium
ExtendedStatus6	Extended Status	16#00000020	Diagnostic configuration data fault	Warning	Event	Medium
ExtendedStatus7	Extended Status	16#00000040	Report Diagnostics fault	Warning	Event	Medium

Device Type Manager (DTM)

The DTM will be installed during setup of the device type via Device Library Wizard. User interactions may be required during installation or post installation. For more details, refer to section Installation on page 4 in this document.

Table 7. Device Type Manager

DTM Type	Specific EMG Drehmo (i-Matic Redund)
Version / Date	2.00.0005 / 02 April 2008
FDT Version	1.2
Vendor	EMG Drehmo
DTM License	Not Required

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, please refer to AO Configuration manual (3BUA000118R4101) and AO Operation manual (3BUA000150R4101).

Table 8. Asset Optimization Functionality

Asset Monitor(s)	Asset monitor not available
Asset Reporter / Viewer	-/-
CMMS Connectivity	Maximo, SAP(1)

(1) SAP web view that allows direct interaction with the data is not a released functionality. Hence this access is not available.

Fixed Problems

Table 9 lists the critical or major issues that have been corrected since the previous version. A brief description of the correction is also been given.

Table 9. Fixed Problems

Issue Fixed	Description
-/-	-/-

Known Problems

Table 10 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 10. Known Problems

Issue	Workaround
DTM does not support Multi user functionality. But it allows the DTM to be opened from two machines. If the DTM is closed in the first machine, the DTM in the second machine will be killed or the Plant Explorer in the second machine will be closed or an exception is generated in the second machine.	Once DTM is opened in one machine, it should not be opened in another machine. If the DTM is opened in two machines, the DTM in the second machine should be closed first. If for some reason the DTM in the first machine is closed and an exception is generated or DTM or Plant Explorer is closed in second machine, then the Plant Explorer should be closed or killed from Task Manager and opened again.
The DTM does not differentiate between Plant Explorer's user roles.	Only authorized users should be allowed to use the DTM.
During installation, DTM asks to restart.	Restart the machine.
Once the parameter is entered, it cannot be cancelled.	To get back the old values do a upload.

Table 10. Known Problems (Continued)

Issue	Workaround
During upload/download we can edit the DTM.	User should not modify the DTM parameters when upload download is going on, otherwise it will result in data incosistencies.
Device status in DTM is not changing when the device is disconnected.	Close the DTM Window and open again.

Support

Contact ABB technical support for assistance in problem reporting.

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