

TECH NOTE :: MP85(A)DP and MP85A(DP)-S

Version: 2015-07-27

Author: Michael Guckes, Product and Application Manager Industrial Amplifiers, HBM Germany

Status: public

Short description

Sequence for reading the curve memory via ProfibusDPV1 using Simatic Step7.

Introduction

The basic sequence of transmission of measured value (Float data format) from the MP85ADP curve memory via the Profibus-DP interface to a master (e.g. Siemens PLC) is shown below.

Programming is done in Step7 Siemens software using the function blocks for reading (SFB52) and writing (SFB53) MP85ADP data.

Procedure

Write Length Measured-Value Memory (specification of the number of curve points)

```
CALL "WRREC", DB53
  REQ := "Start write length"           //Start execution, set flage 15.2
  ID  := DW#16#3FD                     //Slot 0 = Slave diagnosis address (Hex) from HW config.
  INDEX := 16                          //Index of the desired value, Index 10hex = 16dec
  LEN  := 2
  DONE := DB53.DBX10.0
  BUSY := DB53.DBX10.1
  ERROR := DB53.DBX10.2
  STATUS := DB53.DBD16
  RECORD := P#M 110.0 BYTE 2           //Write flag word 110, memory-length value, 2 byte
```

Write Start Triple (position of the first curve point)

```
CALL "WRREC", DB53
  REQ := "Start write"                 //Start execution, set flage 15.3
  ID  := DW#16#3FD                     //Slot 0 = Slave diagnosis address (Hex) from HW config.
  INDEX := 17                          //Index of the desired value, index 11hex = 17 dec
  LEN  := 2
  DONE := DB53.DBX10.4
  BUSY := DB53.DBX10.5
  ERROR := DB53.DBX10.6
  STATUS := DB53.DBD16
  RECORD := P#M 120.0 BYTE 2           //Write flag word 120, starting-point value, 2 byte
```

Read Measured-Value Triples (transmission of the curve points)

```
CALL "RDREC", DB54
  REQ := "Start read triple"           //Start execution, set flage 15.4
  ID  := DW#16#3FD                     //Slot 0 = Slave diagnosis address (Hex) from HW config.
  INDEX := 18                          //Index of the desired value, Index 12hex = 18dec
```

```
MLEN :=60
VALID :=DB54.DBX10.7
BUSY :=DB54.DBX10.8
ERROR :=DB54.DBX10.9
STATUS:=DB52.DBD12
LEN :=DB52.DBW16
RECORD:=P#M 130.0 BYTE 60    //Read to flag word 130, e.g. 48 byte with 4 measured-value triples
```

Optional

DPV1 Index 13 (slot 0) and DPV1 Index 14 (slot 0) can also be used for reading the number of saved measured-value triples and the size of the curve memory.

TIP

If, for example the work piece name is to be read (slot „Process_Stat“, Index 28hex), the diagnosis address is not used, but instead the I/O address of the slot from the hardware configuration. I.e., the following program line will be used in SFB52, if the process status begins with input address 20dec:

```
...
ID  :=DW#16# 14          //Slot „Process_Stat“, I/O address from 20dec HW config.
...
```

Legal notice

This example is only to illustrate integration of the HBM amplifier into a Profibus network. HBM declines all responsibility or liability for this example.