Contents

CANopen device documentation

Bootloader

Bootloader

Project File	bootloader.xdd
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This file was automatically generated with libedssharp Object Dictionary Editor v

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Device Information

Vendor Name	Dawn Aerospace Ltd
Vendor ID	0x4441574E
Product Name	Bootloader
Product ID	0x424F4F54
Granularity	8
RPDO count	0
TPDO count	0
LSS Slave	False
LSS Master	False

Supported Baud rates

☒ 10 kBit/s
☒ 20 kBit/s
☒ 50 kBit/s
☒ 125 kBit/s
☒ 250 kBit/s
☒ 500 kBit/s
☒ 800 kBit/s
☒ 1000 kBit/s
☐ auto

PDO Mapping

Communication Specific Parameters

0x1000 - Device type

Object Type	Count Label	Storage Group
VAR	NMT	ROM

Data Type	SDO	PDO	SRDO	Default Value
UNSIGNED32	ro	no	no	0x10000000

- bit 16-31: Additional information
- bit 0-15: Device profile number

0x1008 - Manufacturer device name

Object Type	Count Label	Storage Group
VAR		ROM

Data Type	SDO	PDO	SRDO	Default Value
VISIBLE_STRING	ro	no	no	Bootloader

0x1009 - Manufacturer hardware version

Object Type	Count Label	Storage Group
VAR		ROM

Data Type	SDO	PDO	SRDO	Default Value
VISIBLE_STRING	ro	no	no	1.00

0x100A - Manufacturer software version

Object Type	Count Label	Storage Group
VAR		ROM

Data Type	SDO	PDO	SRDO	Default Value
VISIBLE_STRING	ro	no	no	1.00

0x1017 - Producer heartbeat time

Object Type	Count Label	Storage Group
VAR	HB_PROD	RAM

Data Type	SDO	PDO	SRDO	Default Value
UNSIGNED16	rw	no	no	0

Heartbeat producer time in ms (0 = disable transmission).

0x1018 - Identity

Object Type	Count Label	Storage Group
RECORD		ROM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x04
0x01	Vendor-ID	UNSIGNED32	ro	no	no	0x4441574E
0x02	Product code	UNSIGNED32	ro	no	no	0x424F4F54
0x03	Revision number	UNSIGNED32	ro	no	no	0x00000000
0x04	Serial number	UNSIGNED32	ro	no	no	0x00000000

- Vendor-ID, assigned by CiA
- Product code, manufacturer specific
- Revision number:
    - bit 16-31: Major revision number (CANopen behavior has changed)
    - bit 0-15: Minor revision num. (CANopen behavior has not changed)
- Serial number, manufacturer specific

0x1F50 - Program Data

Object Type	Count Label	Storage Group
RECORD		PERSIST_COMM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x03
0x01	Program Data Area 1	DOMAIN	wo	no	no	
0x02	Program Data Area 2	DOMAIN	wo	no	no	
0x03	Program Data Area 3	DOMAIN	wo	no	no	

Program memory that will be written to flash

0x1F51 - Program Control

Object Type	Count Label	Storage Group
RECORD		RAM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x03
0x01	Command Channel Area 1	UNSIGNED8	rw	no	no	0
0x02	Command Channel Area 2	UNSIGNED8	rw	no	no	0
0x03	Command Channel Area 3	UNSIGNED8	rw	no	no	0

- 0x00 STOP not implemented
- 0x01 START start the selected program
- 0x02 RESET_STAT resets 0x1F57
- 0x03 CLEAR Eraae area of flash identified by appropriate sub-index
- 0x80 START BOOTLOADER
- 0x83 SET_SIGNATURE Sets the CRC for the selected area
- 0x84 CLR_SIGNATURE Flag the selected area as invalid so taht app is not started after reset

0x1F56 - Identify the application

Object Type	Count Label	Storage Group
RECORD		RAM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x03
0x01	CRC block 1	UNSIGNED32	ro	no	no	0
0x02	CRC block 2	UNSIGNED32	ro	no	no	0
0x03	CRC block 3	UNSIGNED32	ro	no	no	0

0x1F57 - Flash Error Status

Object Type	Count Label	Storage Group
RECORD		RAM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x03
0x01	Flash Error Status 1	UNSIGNED32	ro	no	no	0
0x02	Flash Error Status 2	UNSIGNED32	ro	no	no	0
0x03	Flash Error Status 3	UNSIGNED32	ro	no	no	0

- 0 OK

- 1 BUSY
- 2 NOVALPROG An attempt has been made to start an invalid program
- 4 FORMAT Format of binary transferred to 0x1F51 is incorrect
- 6 CRC The CRC of the binary data is incorrect
- 8 NOTCLEARED Attempt to write a dirty block of flash
- 10 WRITE Errror during flash write
- 12 ADDRESS Attempt to write an invalid addresss to flash
- 14 SECURED
- 16 NVDATA

0x1F58 – Flash domain size

Object Type	Count Label	Storage Group
RECORD		ROM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x03
0x01	Domain 1	UNSIGNED32	ro	no	no	0
0x02	Domain 2	UNSIGNED32	ro	no	no	0
0x03	Domain 3	UNSIGNED32	ro	no	no	0

Size in bytes of each domain

Manufacturer Specific Parameters

0x2000 - Bus Management

Object Type	Count Label	Storage Group
RECORD		RAM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x04
0x01	BDefault	UNSIGNED8	rw	no	no	0
0x02	TToggle	UNSIGNED8	rw	no	no	0
0x03	NToggle	UNSIGNED8	rw	no	no	0
0x04	Count	UNSIGNED8	rw	no	no	0

0x2003 - CPU

Object Type	Count Label	Storage Group
ARRAY		RAM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x08
0x01	Single Error Corrections	UNSIGNED32	rw	no	no	0
0x02	Double Error Detections	UNSIGNED32	rw	no	no	0
0x03	Bus fault count	UNSIGNED32	rw	no	no	0
0x04	Hard fault status	UNSIGNED32	rw	no	no	0
0x05	System handler status	UNSIGNED32	rw	no	no	0
0x06	Config fault status	UNSIGNED32	rw	no	no	0
0x07	Bus fault address	UNSIGNED32	rw	no	no	0
0x08	Hard fault count	UNSIGNED32	rw	no	no	0

0x200E - Gateway

Object Type	Count Label	Storage Group
RECORD		RAM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x07
0x01	Serial baudrate	UNSIGNED32	rw	no	no	0
0x02	Good rx frame counter	UNSIGNED32	rw	no	no	0
0x03	Good tx frame counter	UNSIGNED32	rw	no	no	0
0x04	Serial rx crc failures	UNSIGNED32	rw	no	no	0
0x05	Serial rx abort count	UNSIGNED32	rw	no	no	0
0x06	Serial tx retry count	UNSIGNED32	rw	no	no	0
0x07	Serial tx fail count	UNSIGNED32	rw	no	no	0

Device Profile Specific Parameters

0x7F50 - Password

Object Type	Count Label	Storage Group
RECORD		RAM

Sub	Name	Data Type	SDO	PDO	SRDO	Default Value
0x00	Highest sub-index supported	UNSIGNED8	ro	no	no	0x04
0x01	Password region 1	UNSIGNED32	rw	no	no	0
0x02	Password region 2	UNSIGNED32	rw	no	no	0
0x03	Password region 3	UNSIGNED32	rw	no	no	0
0x04	Password region 4	UNSIGNED32	rw	no	no	0