

Test Instrument Module System (TIMS)

Monitor Generic Function Protocol

Software Specification

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**Test Instrument Module System
TIMS-MGFP**

Monitor Generic Function Protocol

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1 INTRODUCTION

This specification provides the necessary information to design, develop, manufacture, use and maintain the TIMS Monitor Software.

2 SCOPE

This document shall address the generic functions of the monitor software.

The latest revision of this document covers functions of monitor version vD0.

3 CONTACT INFORMATION

3.1 SALES AND SUPPORT

WireWorks West, Inc.
965 Mission Street, Suite 600
San Francisco, CA 94103

415-348-1400 Office
415-348-1414 Fax
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4 REFERENCE DOCUMENTS

<i>Description</i>	<i>Doc. No</i>	<i>Company/Author</i>	<i>Rev/Date</i>
TIMS Datalink Communication Protocol	DOC-000004	WWW/GSH	2/4-11-2005

5 FUNCTION SPECIFICATION

5.1 GENERAL

This subsection presents certain rules for protocol design and implementation.

- ☐ All module assemblies shall have at least one microcontroller device that will respond to the protocol specified herein.
- ☐ A maximum of sixteen microcontroller devices may be present within a module assembly.
- ☐ Device addresses within a module shall be allocated consecutively beginning with address 0xD0.
- ☐ Host controllers shall not use addresses of 0x00, 0xD0 through 0xDF, or 0xFF.
- ☐ Host controller may monitor packets sent to address 0xFF for fatal error messages from a device.
- ☐ Unless otherwise specified within a specific function description, all devices shall respond to a request within 1000 milliseconds.
- ☐ Host controllers should allow up to 1000 milliseconds for a command response, unless a particular function indicates a greater response time is required.

6 MONITOR CONTROL FUNCTION SPECIFICATION

The functions in section 6 are applicable to all TIMS devices. They are used to query for manufacturing data, such as serial numbers and assembly numbers, as well as status functions.

Generic Module Functions Summary

Function	Control Code	Comment
fnc_NO_OPERATION	0x0000	
fnc_DEVICE_RESET	0xF000	
fnc_DEVICE_STATUS_RD	0xF001	
fnc_MONITOR_FW_ID_RD	0xF002	
fnc_MSEC_CLOCK_RD	0xF003	
fnc_MSEC_CLOCK_WR	0xF004	
fnc_DEVICE_DESCRIPTOR_RD	0xF010	
fnc_DEVICE_SW_ID_RD	0xF011	
fnc_DEVICE_ID_RD	0xF012	
fnc_PCB_ASSY_ID_RD	0xF013	
fnc_TIM_ASSY_ID_RD	0xF014	
fnc_MODEL_ID_RD	0xF015	
fnc_MODEL_INFO_RD	0xF016	
fnc_DEVICE_USER_ID_RE	0xF017	
fnc_DEVICE_USER_ID_WE	0xF018	

6.1 FUNCTION: NO_OPERATION

Function Summary

Name	fnc_NO_OPERATION
Description	No functional operation is performed.
Control Code	0x0000
Supplied Variables	None
Returned Variables	None
Comments	The transmitted data element will be returned

Command Packet

<i>Element</i>	<i>Type</i>	<i>Value</i>	<i>Description</i>
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0x0000	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	(tbd)	Command packet data length – 1
DATA	[u8]		See content below
Data[0:n]			Erroneous data array, min one byte
LRC	u8	Calculated	

Response Packet

<i>Element</i>	<i>Type</i>	<i>Value</i>	<i>Description</i>
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0x0000	
STATUS	U16	0x0000	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	(tbd)	Response packet data length – 1
DATA	[u8]		See content below
Data[0:n]			Erroneous data array, min one byte
LRC	u8	Calculated	

6.2 FUNCTION: DEVICE_RESET

Function Summary

Name	fnc_DEVICE_RESET
Description	Selectively directs a specified device within a module to perform a hardware reset, or optionally directs all devices within a module to perform a hardware reset (global reset).
Control Code	0xF000
Supplied Variables	None
Returned Variables	None
Comments	A device will only send a response packet if specifically reset. No device will send a response to a global reset.

Command Packet

<i>Element</i>	<i>Type</i>	<i>Value</i>	<i>Description</i>
TO	U8	0x00 0xDn	Global Address Specific Device Address
FROM	U8	(tbd)	
CONTROL	U16	0xF000	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0:n]			Erroneous data array, min one byte
LRC	u8	Calculated	

Response Packet

<i>Element</i>	<i>Type</i>	<i>Value</i>	<i>Description</i>
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF000	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0:n]			Erroneous data array, min one byte
LRC	u8	Calculated	

6.3 FUNCTION: DEVICE_STATUS_RD

Function Summary

Name	fnc_DEVICE_STATUS_RD
Description	Returns Device Status
Control Code	0xF001
Supplied Variables	None
Returned Variables	Device Status Bytes 0-3 (U8[4]) Monitor FW Code Checksum (U32) Expected SW Code Checksum (U32) Calculated SW Code Checksum (U32)
Comments	

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF001	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0:n]			Erroneous data array, min one byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF001	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	15	
DATA	[u8]		See content below
Data[0]			u8 -- Device Status Byte-0
Data[1]			u8 -- Device Status Byte-1
Data[2]			u8 -- Device Status Byte-2
Data[3]			u8 -- Device Status Byte-3
Data[4:7]			u32 -- Monitor FW Code Checksum
Data[8:11]			u32 -- Expected SW Code Checksum
Data[12:15]			u32 -- Calculated SW Code Checksum
LRC	u8	Calculated	

6.3.1 Device Status Byte-0

Device Status Byte-0

Bit	Name	Description
0	SW Valid	Device Application SW Valid 1 = SW is valid. 0 = SW is NOT valid.
1	Unknown Code	Unknown Control Code Detected 1 = An unknown control code was detected since the last status query. 0 = No unknown control codes detected. This bit is cleared following device status query.
2	TX Buffer Ovr	TX Buffer Overflow Detected 1 = The application SW attempted to write beyond the end of the data link TX buffer memory space detected since the last status query. 0 = No overflow detected. This bit is cleared following device status query.
3	RX Packet TO	RX Packet Timeout Detected 1 = A period of more than 255 milliseconds transpired between RX data link bytes prior to expected last packet byte was detected since the last status query. 0 = No timeout detected. This bit is cleared following device status query.
4	RX LRC Error	RX LRC Error 1 = The accumulated LRC on received bytes of a packet did not match the received LRC byte from the packet. This occurred on at least one packet received since the last status query. 0 = No error detected. This bit is cleared following device status query.
5	(na)	Not Assigned
6	FLASH Prgm	Microcontroller FLASH Programming In-Progress 1 = FLASH programming is in-progress, SW forced invalid. 0 = FLASH programming operation is not in-progress.
7	Test Mode	Manufacturing Test Mode 1 = Test mode enabled. 0 = Test mode disabled.

6.3.2 Device Status Byte-1

Device Status Byte-1

Bit	Name	Description
0	EE CRC	Microcontroller EEPROM CRC Error Detected 1 = An EE CRC error was detected since the last status query. 0 = No error. This bit is cleared following device status query.
1	EE Write	Microcontroller EEPROM Write Error Detected 1 = An EE Write error was detected since the last status query. 0 = No error. This bit is cleared following device status query.
2	EE Address	Microcontroller EEPROM Address Error Detected 1 = A Protected EE location was attempted to be addressed. 0 = No error. This bit is cleared following device status query.
3	(na)	Not Assigned
4	FLASH Erase	Microcontroller FLASH Erase Error Detected 1 = A FLASH Erase error was detected since the last status query. 0 = No error. This bit is cleared following device status query.
5	FLASH Write	Microcontroller FLASH Write Error Detected 1 = A FLASH Write error was detected since the last status query. 0 = No error. This bit is cleared following device status query.
6	UART Framing	Microcontroller UART Framing Error Detected 1 = A UART Framing error was detected since the last status query. 0 = No error. This bit is cleared following device status query. Valid only for SIO interfaced TIMS devices. Indicates the potential for baud rate incompatibility.
7	UART Overrun	Microcontroller UART Overrun Error Detected 1 = A UART Overrun error was detected since the last status query. 0 = No error. This bit is cleared following device status query. Valid only for SIO interfaced TIMS devices. Indicates the potential for firmware unable to service incoming data stream.

6.3.3 Device Status Byte-2

Device Status Byte-2

Bit	Name	Description
0	BOR*	Microcontroller Brown Out Reset 1 = BOR reset not detected. 0 = BOR reset has occurred since the last device status query. (<4.5V) This bit is cleared following device status query.
1	POR*	Microcontroller Power On Reset 1 = POR reset not detected. 0 = POR reset has occurred since the last device status query. This bit is cleared following device status query.
2	PD*	Microcontroller Power Down Reset 1 = PD reset not detected. 0 = PD reset has occurred since the last device status query. This bit is cleared following device status query.
3	TO*	Microcontroller Watchdog Timer Time Out Reset 1 = TO reset not detected. 0 = TO reset has occurred since the last device status query. This bit is cleared following device status query.
4	RI*	Microcontroller Reset Instruction Reset 1 = RI reset not detected. 0 = RI reset has occurred since the last device status query. This bit is cleared following device status query.
5	(na)	Not Assigned
6	(na)	Not Assigned
7	RESET	Microcontroller Reset 1 = A Reset has occurred since the last device status query. 0 = No reset detected This bit is cleared following device status query.

6.3.4 Device Status Byte-3

Device Status Byte-3

Bit	Name	Description
0	SP0	Microcontroller Stack Pointer
1	SP1	
2	SP2	
3	SP3	
4	SP4	
5	(na)	Not Assigned
6	STKUNF	Microcontroller Stack Underflow Reset 1 = A stack underflow reset condition occurred since the last device status query. 0 = No stack underflow reset detected This bit is cleared following device status query.
7	STKFUL	Microcontroller Stack Overflow Reset 1 = A stack overflow reset condition occurred since the last device status query. 0 = No stack overflow reset detected This bit is cleared following device status query.

6.4 FUNCTION: MONITOR_SW_ID_RD

Function Summary

Name	fnc_MONITOR_SW_ID_RD
Description	Returns the microcontroller device monitor software identification stored in Flash memory
Control Code	0xF002
Supplied Variables	None
Returned Variables	Monitor SW ID (String[64])
Comments	Unformatted string containing software version and copyright information.

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF002	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF002	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x3F	64 Bytes
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

6.5 FUNCTION: MSEC_CLOCK_RD

Function Summary

Name	fnc_MSEC_CLOCK_RD
Description	Returns the current value of the millisecond clock
Control Code	0xF003
Supplied Variables	None
Returned Variables	MSEC (u32)
Comments	

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF003	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF003	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x03	
DATA	[u8]		See content below
Data[0:3]			u32 – Msec Clock Time
LRC	u8	Calculated	

6.6 FUNCTION: MSEC_CLOCK_WR

Function Summary

Name	fnc_MSEC_CLOCK_WR
Description	Sets the millisecond clock time
Control Code	0xF004
Supplied Variables	MSEC (u32)
Returned Variables	None
Comments	

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF004	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0x03	
DATA	[u8]		See content below
Data[0:3]			u32 – Msec Clock Time
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF004	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

6.7 FUNCTION: DEVICE_DESCRIPTOR_RD

Function Summary

Name	fnc_DEVICE_DESCRIPTOR_RD
Description	Returns the device descriptor stored in Flash memory
Control Code	0xF010
Supplied Variables	None
Returned Variables	Device Descriptor (String[64])
Comments	Formatted string of four fields containing; Model No., Module Assembly Serial No., Device Function, and Device User ID.

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF010	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF010	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x3F	64 Bytes
DATA	[u8]		See content below
Data[0:15] Data[16:31] Data[32:47] Data[48:63]			String[16] – Model No. String[16] – Module Serial No. String[16] – Device Function String[16] – Device User ID
LRC	u8	Calculated	

6.8 FUNCTION: DEVICE_SW_ID_RD

Function Summary

Name	fnc_DEVICE_SW_ID_RD
Description	Returns the microcontroller device application software identification stored in Flash program memory
Control Code	0xF011
Supplied Variables	None
Returned Variables	Device SW ID (String[64])
Comments	Unformatted string containing software revision and copyright information

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF011	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF011	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x40	64 Bytes
DATA	[u8]		See content below
Data[0:63]			String[64] – Device SW ID
LRC	u8	Calculated	

6.9 FUNCTION: DEVICE_ID_RD

Function Summary

Name	fnc_DEVICE_ID_RD
Description	Returns the microcontroller device identification stored in Flash memory
Control Code	0xF012
Supplied Variables	None
Returned Variables	Device Identification(String[64])
Comments	Formatted string of two fields containing device function and description

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF012	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF012	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x3F	64 Bytes
DATA	[u8]		See content below
Data[0:15] Data[16:63]			String[16] – Device Function String[48] – Device Description
LRC	u8	Calculated	

6.10 FUNCTION: PCB_ASSY_ID_RD

Function Summary

Name	fnc_PCB_ASSY_ID_RD
Description	Returns the assembly identification of PCB that the microcontroller device is contained on. The information is stored in Flash memory
Control Code	0xF013
Supplied Variables	None
Returned Variables	PC ASSY ID (String[64])
Comments	Formatted string of three fields containing assembly number, serial number, and miscellaneous assembly information.

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF013	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF013	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x3F	64 Bytes
DATA	[u8]		See content below
Data[0:15] Data[16:31] Data[32:63]			String[16] – Assy No and Rev String[16] – Serial No String[32] – Misc Info
LRC	u8	Calculated	

Assembly and Revision is one of two forms; 9AA-AAAA-RR or 9AA-AAAA-DDD-RR, where; 9AA-AAAA is the assembly number, DDD is a dash or variation number, RR is the revision, and additional characters are null.

Serial number is in the form of; YYMMDDFFRRSSSS, where; YY – year, MM – month, DD – day of manufacture, FF – factory code, RR – reserved, SSSS – unit number produced on the date and at the factory, and additional characters are null.

Misc Info is reserved for additional unit assembly information deemed pertinent.

6.11 FUNCTION: TIM_ASSY_ID_RD

Function Summary

Name	fnc_TIM_ASSY_ID_RD
Description	Returns the module assembly identification stored in Flash memory
Control Code	0xF014
Supplied Variables	None
Returned Variables	Module ID (String[64])
Comments	Formatted string containing module assembly, revision, and miscellaneous information.

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF014	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF014	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x3F	64 Bytes
DATA	[u8]		See content below
Data[0:15] Data[16:31] Data[32:63]			String[16] – Assy No and Rev String[16] – Serial No String[32] – Misc Info
LRC	u8	Calculated	

Assembly and Revision is one of two forms; 9AA-AAAA-RR or 9AA-AAAA-DDD-RR, where; 9AA-AAAA is the assembly number, DDD is a dash or variation number, RR is the revision, and additional characters are null.

Serial number is in the form of; YYMMDDFFRRSSSS, where; YY – year, MM – month, DD – day of manufacture, FF – factory code, RR – reserved, SSSS – unit number produced on the date and at the factory, and additional characters are null.

Misc Info is reserved for additional unit assembly information deemed pertinent.

6.12 FUNCTION: MODEL_ID_RD

Function Summary

Name	fnc_MODEL_ID_RD
Description	Returns the TIMS model identification stored in Flash memory
Control Code	0xF015
Supplied Variables	None
Returned Variables	Model ID (String[64])
Comments	Formatted string of two fields containing model number and description.

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF015	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF015	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x3F	64 Bytes
DATA	[u8]		See content below
Data[0:15] Data[16:63]			String[16] – Model No. String[48] – Model Description.
LRC	u8	Calculated	

6.13 FUNCTION: MODEL_INFO_RD

Function Summary

Name	fnc_MODEL_INFO_RD
Description	Returns additional TIMS model information stored in Flash memory
Control Code	0xF016
Supplied Variables	None
Returned Variables	Model Info (String[64])
Comments	Unformatted string.

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF016	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF016	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x3F	64 Bytes
DATA	[u8]		See content below
Data[0:63]			String[64] – Model Info
LRC	u8	Calculated	

6.14 FUNCTION: DEVICE_USER_ID_RE

Function Summary

Name	fnc_DEVICE_USER_ID_RE
Description	Returns the user defined device identification string from EEPROM
Control Code	0xF017
Supplied Variables	None
Returned Variables	Device User ID (String[16])
Comments	Meaning of this information is determined entirely by the user

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF017	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF017	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0x0F	16 Bytes
DATA	[u8]		See content below
Data[0:15]			String[16] – Device User ID
LRC	u8	Calculated	

6.15 FUNCTION: DEVICE_USER_ID_WE

Function Summary

Name	fnc_DEVICE_USER_ID_WE
Description	Stores a user defined device identification string into EEPROM
Control Code	0xF018
Supplied Variables	Device User ID (String[16])
Returned Variables	None
Comments	Meaning of this information is determined entirely by the user. Device User ID is stored into non-volatile memory.

Command Packet

Element	Type	Value	Description
TO	U8	0xDn	
FROM	U8	(tbd)	
CONTROL	U16	0xF018	
STATUS	U16	(xxx)	Don't care, ignored by receiver
REF	U8	(tbd)	
Data_Length	U8	0x0F	16 Bytes
DATA	[u8]		See content below
Data[0:15]			String[16] – Device User ID
LRC	u8	Calculated	

Response Packet

Element	Type	Value	Description
TO	U8	(tbd)	Echo of Command Packet FROM
FROM	U8	0xDn	
CONTROL	U16	0xF018	
STATUS	U16	(tbd)	
REF	U8	(tbd)	Echo of Command Packet REF
Data_Length	U8	0	
DATA	[u8]		See content below
Data[0]			Erroneous Dummy Byte
LRC	u8	Calculated	