

# ACQUISYS COMMUNICATION HOWTO

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## 1. Goal

Description of the communication interface for RS232 and WinDDE communication for Acquisys software

## 2. Application Domain

Acquisys software

## 3. References / Definitions

## 4. Abbreviations and Terminology

## 5. Procedure

### 5.1. RS232-Connection-Settings

SerialPort = "COM1"

BaudRate = "4800"

Parity = "Even"

DataBits = "7"

StopBits = "2"

### 5.2. Communication Command List

Command :	Description :
?	Returns the measured value of the laser [mm]
T1	Returns the measured value of Material Temperature Sensor 1 [°C]
T2	Returns the measured value of Material Temperature Sensor 2 [°C]
T3	Returns the measured value of Material Temperature Sensor 3 [°C]
AT	Returns the measured value of Air Temperature Sensor [°C]
AH	Returns the measured value of Air Humidity [%]
AP	Returns the measured value of Air Pressure [mmHg]
RST	Resets the measured value to 0
RES3	Sets the shown number of digits of the measured value to 3 (valid commands : RES3 – RES8)
ERR	Returns the last Error Value (see Error List below) and resets the Error State to NO_ERROR
START	Tells the program that a measurement cycle will start. The program will update all compensation values, deactivate automatic compensation and send the string START when finished.
STOP	Tells the program that the measurement cycle is finished. The program reactivates automatic compensation.

### 5.3. Error List

General Driver Errors	Description	Value
INVALID_CHECK_INSTALLED_BOARD	Invalid check installed board code	30020
WRONG_BOARD_TYPE	Wrong board type specified	30021
WDM_INVALID_HANDLE_VALUE	Invalid WDM handle	30100
WDM_NO_MEMORY	Not enough memory available for driver	30101
WDM_WRONG_ALTERNATE_SETTING	The required alternate setting is not possible	30102
WDM_TOO_MUCH_MESSAGES	Too much messages received from message pipe	30103
WDM_WRONG_MESSAGE_SIZE	Wrong message size	30104

Error	Description	Value
PCAL_LASER_OFF	Laser off or warming up	30150
PCAL_NO_OPTICS	No reflectors in laser path	30151
PCAL_SLEW_ERROR	Slew error	30152
PCAL_LOL	Loss-of-lock occurred	30153
PCAL_AQB_ERROR	AqB error	30154
PCAL_NO_ERROR	No error from board	30155
PCAL_TIMEOUT	Time out error	30156
PCAL_EXT_RES_ERROR	Extended resolution error	30157
PCAL_TBG_ERROR	TimeBase Not Armed	30158
PCAL_INVALID_UNITS	Invalid units	30167
PCAL_OPTICS_OOR	Angular Measurement error, Out of Range	30250
PCAL_TB_NOT_STOPPED	Time base not stopped	30251
PCAL_UNARMED	PCAL not armed for time base	30252
PCAL_TB_NOT_STARTED	Time base was not started	30253

Error	Description	Value
UNEXPECTED_BULK_PACKET	A bulk packet was received without prior notice.	30300
INVALID_BULK_PACKET_SIZE	A bulk packet was received with an invalid packet length.	30301
MESSAGE_OVERFLOW	An overflow occurred in the transfer fifo of the message pipe.	30302
WRONG_FLASH_CHECKSUM	The 64kb of data that, received on the bulk pipe, have a checksum that does not equal 0.	30303
ISO_UNDERRUN	An underrun condition has occurred in the iso fifo.	30304
BULK_OVERFLOW	An overflow occurred in the receive fifo of the bulk pipe.	30305
ISO_FLUSH	An iso packet was flushed, because the host didn't request it soon enough.	30306
DOWNLOAD_FPGA	An error occurred during the download of the FPGA code into the 10887 board.	128

## 6. Appendix