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HOW TO CONNECT A WTX536 VAISALA WEATHER STATION TO A TRIPOD and AEROQUAL AQS1 or DUST SENTRY MONITOR

Vaisala weather station bacnet. Vaisala weather stations. Vaisala weather forecast.

Bytes The size of the download. WARNING! Follow local and state legislation and regulations on occupational safety. When you no longer need the generated trace log files, delete them from your computer. To disconnect all power supplies, switch the AC (mains) on. Insert the communications modules in the new QML data logger, in the same connector blocks (MOD1 and MOD2). To poll the latest report messages, open a service connection and type the polling command in the AWS Client terminal window. QMD202 is located inside the enclosure. To enable the automatic download, AWS Client must run continuously. • If CFG:LT31 = 1,visibility and present weather data comes from PWD22 and background luminance data from LT31. CAUTION! Before you make any changes to an existing system, download the current setup file and back up the station parameters in case something goes wrong. The following warning means that you have reset the QML data logger. Parity Set to None. 117 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 12.5.7 Determining Sensor Status of the sensor interfaces. The interval is 5 or 10 seconds, depending on if the script is running or not. The QML data logger calculates basic meteorological variables and transmits all data forward to the AviMet system, where the data is further processed and displayed to the user. 112 selecting.... The cleaning frequency depends on site conditions. Remove the pipe housing. Green LED on the QML data logger is not blinking, no data is shown on the displays, or no report is sent over the communication connection. Replace the battery. 84 10.10 WA15 Maintenance..... ...85 10.11 HMP155 Maintenance.....86 10.11.1 Changing HMP155 Probe Filter...... Information > Updating QML Data Logger Software with Memory Card (page 95) > Updating QML Data Logger Software with Loader (page 96) 11.1.1 Updating QML Data Logger Software with Memory Card You can update the QML data logger software from a pre-programmed memory card. All observation data from the sensors is collected in the QML data logger. In Common, set the following: Name Type an alphanumeric string that uniquely identifies the connection that you create in the address book. Save the following files into the same folder on your computer. • Command parameter in a set. New Logger Time displays the time set for the QML data logger. Power up the station and check that the new unit works properly. In addition to automatic reporting, you can poll the messages with report-specific polling commands. 82 10.9.1 Testing Operation... In the folder, type loader and press ENTER. • . 49 wind secondary display..... TSS928_1 is connected to DSI486_0_0 • TSS928_2 is connected to DSI486_1_0 • TSS928_3 is connected to DSI486_1_1 3. In AWS Client, select Maintenance > Setup File > Download from Logger. 12 Service Port... In the CFG parameter set, select WMT700 1 or WMT700 2. paramsetclear [] • Command paramsetclear removes all parameter sets. • Cleaning the wind vane when necessary. 65 9.2 Backing up and Restoring Station Setup.....66 9.2.1 Downloading Setup File - Flashes once every 10 seconds Setup is interrupted due to an error. • 0 = Automatic (default) • 1 = TSS928 1 • 2 = TSS928 2 • 3 = TSS928 3 5. QML data logger does not receive commands typed in AWS Client. You can use many of the commands to view the current parameter value or to set a new one. 108 terminal commands.... ...29, 131 recording text... use the converter cable, you must install Vaisala USB Instrument Finder. Set time zone Set the time zone manually. Press and keep the reset button pressed down for a few seconds. Used in sunshine duration calculation. close Closes the service connection. Port settings on the Use the following settings: 9600 bps, 8 data bits, computer and the QML 1 stop bit, no parity on the PC. For example: time 14 10 00 98 12 31 timezone [hours] • Command timezone shows the time zone. Operation of electrical equipment in such an environment constitutes a safety hazard. More Information • HMP155 Maintenance (page 86) 10.12 SMP Series Sensor Maintenance Periodic maintenance for SMP series sensors includes regular cleaning of the sensor dome using pure alcohol or distilled water and a lint-free cloth. In the Compatibility tab, select Run this program as an administator. Table 23 Fields in Calibration Window Field Description Input Sensor Sensor name as defined in the setup. If necessary, ask someone to help. In the Select File window, select the appropriate setup file and Select File. Type each command with the correct syntax and in the same case (usually in lower case) as in the help texts. 65 surge arrester maintenance...77 system info display..... .. The following serial line parameters are fixed for the communication interfaces. 86 replacing filter.... . If the service connection is open, type close first. In the CFG parameter set, select QMT107. 111 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 3. Remove and clean any dirt from the bucket. For reference purposes, see the following tables. Since no Maintenance Manual ESD protection.. moving or consumable parts are used, only minimal periodic maintenance is required. 2) TS1_1min_avg:Avg °C 1-minute average soil temperature from the second soil temperature sensor TR_1min_avg:Avg °C 1-minute average runway temperature Charger:External_DC V Voltage measurement from QML201C supply DC voltage BatteryVoltage:meas V Voltage measurement of the battery INT PT100:T int °C Internal Pt100 temperature measurement of the battery low alarm: • 1 = Battery voltage is below threshold • 0 = Battery voltage is at correct range MainsOnOff:status - Status of AC (mains) power supply. 29 5. Switch off both AC (mains) and battery power before performing maintenance procedures. 127 WAC155..... ..127 WAV151..... .126 WMT700. In Serial Port, set the following: COM port to which the service cable is connected to. Carefully remove the collecting bucket and empty it. The value of parameter spdvoltlimit is too high. Installing AWS Client (page 19) Installing Vaisala USB Instrument Driver (page 20) Defining Number Format (page 20) Connecting to Station (page 23) Configuring Serial Line Connection (page 23) Establishing Connection to Station (page 31) Setting Messaging Setting Station Parameters (page 34) Configuring Sensor Parameters (page 37) Configuring Sensor Selectors (page 39) Setting Messaging97, 120 troubleshooting..... Parameters (page 45) After the initial configuration, the configuration only needs to be changed in the following situations: • You remove, replace, or add sensors. 78 resetting.....110, 113 updating software...... If the power supply unit is faulty, replace it. CAUTION! Update the QML data logger software only when requested by Vaisala. Open the CFG parameter set. Sensor body is covered with ice and snow. Overwrites the sensor sensitivity value for the radiation sensor. Figure 5 Example Output of logstatus Command More Information > Data Logging (page 53) 54 Chapter 8 - Configuring Logging 8.3 Downloading Log Files You can download log files from the QML data logger to your computer. Contact your local authorities regarding the correct disposal. 136 Error: Files are different Appendix A - Command Reference The following commands allow the use of wildcards: chmod, dir, del, copy, move, verify, and zs. • 1 = Mains power supply is off • 0 = Mains power supply is on 146 Appendix D - Log Groups Log item name Unit Description Internal temperature alarm: • 1 = Measured internal temperature is above accepted limit • 0 = Internal temperature is at correct range SolarRadiationStatus:status - Status of solar radiation measurement: • 1 = perature measurement. • 1 = There is a problem in soil temperature measurement port or sensor cable • 0 = No alarm TempSoilStatus2:status - Status of second soil temperature measurement: • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil temperature measurement; • 1 = There is a problem in second soil t hardware alarm: • 1 = Alarm is active • 0 = No alarm TA Selector:sensor status - Status of relative humidity measurement RH Status:status - Boolean status - Bo status of dry-bulb temperature measurement • 1 = Error in temperature measurement • 0 = No error Lightning Selector: status 1) 2) - Status of TSS928 The sum is reset every time the period starts over and the resetting is synched to 6 a.m. local time. 45 Parameters of Meteorological Display 1. X5 1-2 Channel B RS 485 line terming resistor active. What was done when the failure was noticed? Checking that the radiation shield and cable are intact, 1.4 Trademarks of Vaisala Ovi, The active USB interface Disconnect the USB interface, 86 10.11.2 Sending HMP155 Altitude (m) Type the weather station altitude from the mean sea level in meters. WARNING! Do not open the AC/DC power supply unit. To enter the service mode, type the command open. 40 Parameter Set Name Description Values Lightning_Selector Selects the lightning sensor. Example: copy for Calibration /log/L2*.* /Ext/log L2copy More Information + Issuing Commands (page 29) 137 AWS310-SITE Configuration and Maintenance Manual 138 M212032EN-A Appendix B. Station Parameters Table 34 General Settings Parameters Table 34 General Settin Information > Problem Situations with WAV151 (page 126) > Problem Situations with WAA151 (page 127) > Problem Situations with WAV151 Table 27 WAV151 Problem Situations and Their Remedies Problem Probable Cause Remedy Data is not received from the sensor. In AWS Client, select . Do not reach into parts and assemblies that are AC (mains) powered and live except in the presence of someone who can provide first aid. Backing Up and Restoring Configuration...... .65 9.1 Backing Settings > Parameters > Backup from Logger. 48 7.5.4 Wind Primary Display. . Select Browse and select the folder for storing the downloaded log files. 105 12. If you want to add new sensors to the weather station, contact Vaisala. Switch off mains power and make sure that there is no AC (mains) power available for the power supply unit. This may cause errors. up and Restoring Station Parameters. Install the new QML data logger on the DIN rail. Effective only when the weather station is in LLWAS mode. Enable the sensor in the CFG parameter set. Param QML data logger and store it for future use. However, calibration is recommended: • After grinding the sensor surface • When the sensor is easily accessible due to other work More Information - Checking DRS511 Position (page 91) + Lowering DRS511 Position (page 91) + Lowering DRS511 Position Vaisala Installation Plate (210764) or spirit level Check the sensor visually once a year before the wintertime. The sensor not enabled in the CFG parameter set. Product Overview..... • Loader program loader.exe • QML201C software bin.mot 2. 52 meteorological display 1..... Connect an external supply voltage, if needed. 49 . Remove the memory card you use for data logging from the memory card slot in the QML data logger. Displayed for others than the radiation sensor. More Information > Backing up and Restoring Station Setup (page 66) 68 Chapter 10 - Maintenance 10. Maintenance 10.1 Site Maintenance To make sure that observations are reliable, keep the observation site in good condition: • Check that the vegetation surrounding the station does not get too high and too close to equipment. When the files have been downloaded, select Close. md Creates a directory. Polling frequency Select the download frequency for the log files Weak signal or no signal in the communication network. • If the LED is yellow, the battery voltage is low (level < 11.5 V). 99 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 7. Flow control Set to None. To make sure that the serial port is free for software loading, close the service connection. 155 AWS310-SITE Configuration and Maintenance Manual 156 M212032EN-A www.vaisala.com To prevent the collecting bucket floor from deforming if the collected precipitation freezes in sub-zero temperatures, add anti-freeze solution. 120 12.6.1 Checking Errors..... ... 145 Items in Log Group Vaisala recommends that you visually inspect the obstruction light once a year to make sure correct operation. Check that all the connectors are properly attached. The system does not send the TABLE and LLWAS reports automatically, but you can poll them like other report messages. 51 System Info Display. . In the CFG parameter set, select FS11P. Additionally, AWS310-SITE can generate the following message for AviMet and the WID displays (WID511) • Air temperature and relative humidity message (TU), one for AviMet and one for the WID displays • Atmospheric pressure message (PA), one for AviMet and one for the WID displays For a complete list of the memory card. Delete remote file after download Select to delete the log file from the OML data logger after it has been downloaded (to conserve storage space). 104 WA15... . Check the port settings. If the sensor becomes contaminated, clean the sensor . Configuring Logging... carefully using a soft, lint-free cloth moistened with mild detergent. 12.10 Troubleshooting OTT Pluvio2 L Table 30 OTT Pluvio2 L Problem Situations and Their Remedies Problem Situations and Problem Situations temperature sensor. Make sure that WMT700 reads less than 0.22 m/s (0.5 mph) with the verifier in place. Alternatively, use an accessory drain pump for emptying. In the CFG parameter set, select SMPA. Poor maintenance cable connection. In the TA Selector parameter set, select the air temperature sensor to use. More Information > DRS511 Maintenance (page 91) 10.17 OMT Maintenance Check the cabling once a year. 51 Lightning Display.... . © Vaisala Oyj 2018 No part of this manual may be reproduced, published or publicly displayed in any form or by any means, electronic or mechanical (including photocopying), nor may its contents be modified, translated, adapted, sold or disclosed to a third party without prior written permission of the copyright holder. Realign WMT700. 3.3 Installing Vaisala USB Instrument Driver If you use a computer that does not have an RS-232 serial port, use the USB-to-RS-232 converter cable that is provided for a local connection to the weather station. - ID Measurement identifier. In problem situations, give the following commands. Applies linear gain correction to the value reported by the wind sensor. There is no need to calibrate the optical measurement of DRS511 regularly. 103 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 3. The command lists parameters that are especially useful when troubleshooting the system or when contacting Vaisala technical support. Regular pruning is advised. 10.7.3 Checking Battery Check the battery status once a year by checking the status LED on QBR101C. 58 Chapter 8 - Configuring Logging Figure 6 Example of Logged Data in Spreadsheet Program More Information • Data Logging (page 53) 8.5 Downloading Log Files Automatically You can specify a schedule and allow AWS Client to download the log files automatically. Command wait timeout (ms) Type a value in milliseconds that specifies how long AWS Client to download the log files automatically. ..31 configuring sensor parameters..... the connection. 68 closing service connection. . Vaisala does not provide free support if you update the file by yourself. $\bullet 0$ = Automatic (default) • 1 = RG13(H) • 2 = OTT Pluvio 2 L RH Selector Selects the relative humidity sensor. • To reset the logger after a specified delay, select Maintenance > Reset > Delayed. Errors indicate that there is something wrong with the sensors or the configuration. Table 39 Items in Log Group L2 Log item name Unit Description Visibility Selector:BL cd/m2 Background luminance Visibility Selector:devstatus - Visibility -CL31:v_vis m Vertical visibility CL31:d_stat - Ceilometer detection status CL31:GenStat - Ceilometer general device status CL31:HWStat - Ceilometer general device status CL31:HWStat - Ceilometer hardware status flags More Information > Data Logging (page 53) D.4 Log Group 3 (L3) Log group L3 contains LLWAS calculation results. In Log File, set the following: Storage directory Select Browse and specify the folder for storing the downloaded log files. If the indicator is red, change the removable plug in the surge arrester. 127 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Problem Probable Cause Remedy Shaft heating for the sensors is not working. A built-in testing system also continuously checks the hardware, and reports immediately if a fault occurs. Power supply is not working. Check the wiring and tighten the screw terminals. Remove the mounting clamp and then the battery from the holder. Each time the station powers up, the boot software checks if there is new software on the memory card. Execute the .bat file. 112 Chapter 12 -Troubleshooting When the direct connection to a sensor is open, any automatic operation through the connected port is blocked. Open the cover of the old and new QML data loggers. logstop Stops logging the defined log group. For instructions on how to check the sensor level, see Checking DRS511 Position (page 91). 139 152 M212032EN-A M How many failed (only one defect / other same or similar defects / several failures in one unit)? A lightning strike through a communication wire can cause a lethal current surge. One by one, open the settings for each sensor in the (page 89) 10.16 DRS511 Maintenance Periodic maintenance for DRS511 includes: • Checking the sensor position once a year before the wintertime. If the malfunctioning sensor is measured by the QML data logger: 1. warnings clear Replace parameter symbols with values time [HH MM SS YY MM DD] To see current time, type: time To set a new time and date, type: time 15 45 00 To set a new time and date, type: time 15 45 00 15 06 18 loggo - Parameters shown in < > cannot be omitted. 10.2 Station Maintenance Check the mechanics and cabling for any damage and corrosion, and repair if needed: • Inspect cables for breaks, cracks in the protective coating of cable connectors, and bent, damaged, or misaligned pins. The filename is LOYYMMDD.dat. Service connection is not open. -s The bit rate used for the maintenance connection. Unplug the pressure tubing from the nozzle in the lower right corner of the QML data logger. Insert the new unit on the DIN rail and snap it to place. 118 Chapter 12 -Troubleshooting 4. 123 AWS310-SITE Configuration and Maintenance Manual Parameter Explanation Setup creator Creator of the setup file. In demanding conditions, you may need to clean the dome weekly. AC (mains) power is off. 12.8 Troubleshooting WMT700 Table 26 WMT700 Table 26 WMT700 Problem Situations and Their Remedies Problem Probable Cause Remedy Connection to WMT700 is lost. Battery backup time is too short. 51 soil and runway display...... If you can use the COM1 port in your computer, connect the other end of the maintenance cable to the COM1 port. 19 Installing Vaisala USB Instrument Driver..... . Take into account also the effects of local weather conditions. Heating element is not properly connected or does not function. Dispose of used batteries according to statutory regulations. Use the service connection to check and correct the messaging settings. / W> warnings Example output. sensors Warning: Break occurred 9 times first in uart.cpp[84] during thread: 00019F60 [AbsTimerT] object pointer: 106C [component: COM0] 2. By default, the user levels are not in use. 11 2.1.1 AWS310-SITE Type the number of the primary sensor. To avoid this, delete or replace the setup file before executing the logger content cleanup. • Cancelled. • Command netif close closes the given interface. Carefully remove the filter from the probe. Check that the supply . The MET site is typically installed next to the runway, but it can be also installed away from the runway. Figure 12 CSD3 Drying Cartridge Location Kipp & Zonen recommends that you calibrate the sensor every 2 years. • 0 = Automatic voltage is 9.5 .. 15.5 VDC. 6.1 6.2 Configuring Sensors. (default) • 1 = WMT700 1 • 2 = WAC155 1 • 3 = WMT700 2 • 4 = WAC155 2 10. Handle the collecting bucket carefully, so that it does not fall and injure you or damage the balance system. The USB interface is connected. 114 testing WMT700... ...84 time configuring... modular design of the station allows easy integration of additional sensors after the initial purchase and permits quick replacement of individual components, reducing downtime and overall operating cost. 27 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Some values are shown as slashes, either because the sensor is missing .. • • • L0 = Log group name for daily log files (L0, L1, L2, or L3) YY = Year in 2 digits MM = Month in 2 or because the value is calculated from the measured values later. Select Trace log on. 49 1 AWS310-SITE Configuration and Maintenance Manual 7.5.6 7.5.7 7.5.8 7.5.9 Soil and Runway Display. 145) Log Group 1 (L1) (page 145) Log Group 2 (L2) (page 148) Log Group 3 (L3) (page 148) 53 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 8.2 Working with Log Files Table 18 Logging Commands Command Description logstatus Shows the logging state and variables of all log groups. 51 T TABLE .. For example: time 14 10 00 • Command time and the new time and date changes the current date. Open a service connection to the station. You can see the versions of the installed communication modules, such as DSI486, in the output or in the startup message. To start the download, select Select Folder Remove the card from the card slot. For example: spclear Clears a static parameter or all parameters. 9 transferring data memory card..... . 107 12.2 Writing Problem Report.. 2-3 Channel B RS-232 mode. When using the SDI-12 interface: USB driver is incorrectly . 1 2 Bitumen Filler sand 3. Table 1 Document Versions Document Code Date Description M212032EN-A February 2018 First .. 65 battery checking..73 disconnecting fuse.... .72 replacing. installed. 66 station parameters. version for AWS310-SITE model B. 12.9.3 Problem Situations with WAC155 Table 29 WAC155 Problem Situations and Their Remedies Problem Situations and Their Remedies Problem Situations with WAC155 Table 29 WAC155 Problem Situations and Their Remedies Problem Situations with WAC155 Table 29 WAC155 Problem Situations and Their Remedies Problem Situations and Proble Appendix A - Command Reference Command Syntax Description parameter sets. The Break and Frame warnings most likely mean that you have turned your computer off and on again. 19 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Perform all installation procedures while logged in as an administrator. In AWS Client, select Maintenance > Synchronize Clock. AWS Client starts saving all text into the .log, indicating the time stamp when the file was created. If the surface temperature sensor is too high, use a screwdriver to press the metal part of the sensor downward. Select the folder to which you want to download the accredited calibration) More Information + AWS310-SITE Observations (page 12) + AWS310-SITE Options (page 13) 11 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 2.1.1 AWS310-SITE Observations Figure 1 Sensors Supported by AWS310-SITE Observations Figure 1 Sensors Supported by AWS310-SITE Observations (page 13) + AWS310-SITE Observations Figure 1 Sensors Supported by AWS310-SITE Observations Figure 1 Sensors Supported by AWS310-SITE Observations Figure 1 Sensors Supported by AWS310-SITE Observations (page 13) + AWS310-SITE Observations Figure 1 Sensors Supported by AWS310-SITE Observations Figure 1 Sensors Supported Sensors Supported Sensors Sensor - Product Overview • Wind speed and direction You can use AWS Client to work with the QML data logger, for example, to set stationspecific parameters and to download the daily log files. Internal temp. p The COM port used for the connection. More Information • Adding New Sensors (page 98) • Overview of Troubleshooting (page 107) 3.2 Installing AWS Client The AWS Client installation file is usually delivered with the weather station on a USB stick or a CD-ROM. 139 powering disconnecting power..... data logger do not match. Reinstall the USB driver. CAUTION! When updating the setup file, load the new setup file and make sure it functions correctly. In the . Error in the setup. What was connected to the product and to which connectors? 13 O observations....... SS Selector parameter set, select the sunshine duration sensor to use. 51 wind display. . 74 block diagram.. . 19200 Parity: N, O, or E Bits: 7 or 8 Stop: 0 or 1 sname [station name] • Command sname shows the current station name. 10.11 HMP155 Maintenance for HMP155 includes: • • • • Checking that the probe is securely mounted. For more information, see the appropriate delivery documents. • The parameter URI defines the HTTP URI to read from or write to (for example, a file). Mutually exclusive. Set the jumpers in the new QML data logger as they were in the old QML data logger. When you have installed new hardware: 1. Other visible cause. • • • • • 0 = Automatic (default) 1 = WMT700 1 2 = WAC155 _1 3 = WMT700_2 4 = WAC155_2 4. WARNING! After disconnecting the power cable, dangerous voltages can exist for some time. The value should be at least 20000 ms (20 s). 11.2.14 Adding QMT110 to System Before configuring the new sensor, complete the mechanical installation. 67 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 9.3 Cleaning AWS Settings You can completely remove the settings of an earlier setup from the QML data logger. 24 M212032EN-A Chapter 5 - Configuring Station Settings 1 2 Altitude = Ground level from mean sea level in meters Pressure sensor level = Distance between the bottom flange of the enclosure and the ground 3. If needed, change the value. Table 40 Items in Log Group L3 Log item name Unit Description LLWAS WindCalc:WD filtered wind speed LLWAS WindCalc:WD fil direction LLWAS WindCalc:Validity - Wind information validity: • V = Invalid • A = Valid 148 Appendix D - Log Groups More Information * Data Logging (page 53) 149 AWS310-SITE Configuration and Maintenance Manual 150 M212032EN-A Index Index A abbreviations. 13 AC/DC power supply .. Communication with the interfaces is not possible. 141 C.2 AWS310-SITE Block Diagram...... ...143 Appendix D: Log Groups..... ...145 D.1 Log Group 0 (L0).... the log files from the internal memory of the QML data logger, select Internal. See Determining QML Data Logger Operation Mode (page 110) 2. Make sure you have the original setup and the new setup saved as an .adc file. You do not receive any messages. Restart the system. • Command cd .. 105 AWS310-SITE Configuration and Maintenance Manual 106 M212032EN-A Chapter 12 - Troubleshooting 12.1 Overview of Troubleshooting 12 TABLE. 88 DRS511.. Resetting sum from the previous 24 hours. The sensor troubleshooting instructions included in this manual contain additional information or are for third-party sensors (not manufactured by Vaisala). 48 Parameters of Wind Display..... Parameters of Wind Primary Display . The upper bucket edge must not come into contact with the housing. In the CFG parameter set, select the correct sensor. 39 sensor support arm maintenance. .49 Parameters of Wind Secondary Display.. . commands. Once the reset is complete and the setup is running without problems, AWS Client terminal window displays the text Setup running ok, and the QML data logger is ready for use again. Reload the original setup and verify that the system starts and runs. 115 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Problem Probable Cause Remedy System is non-functional. In the Address Book window, select New. Do not perform the test when there is a risk of thunderstorm in the area. Logged data is divided into 4 log groups that each create a separate log file each day. If the blockage is ice or snow, it melts after some time if you are using a heated version of WMT700. b. Jumpers X3 and X6 select RS-485 or RS-232 mode for the second line. • Command ntp shows the time of the NTP server clock. 110 Chapter 12 - Troubleshooting LED Operation Mode Notes Flashes quickly 2 times in a row Setup is running but there are warnings. In the General Settings parameter set, select wooffset 1 or wsoffset 2. • Command ftp get [-user username] [-pass password] downloads a file to the QML data logger. 47 7.5.2 Meteorological Display 19 Overview of AWS310-SITE Configuration..... ..19 Installing AWS Client 73 QML Data Logger without Cover . . 105 QMT110.. ..69 UHF radio modem. If you do, the QML data logger restarts with a blank setup. Remove the new power supply unit connectors. In the Log File Download Settings window, set the following. X4 1-2 Channel A RS-485 line terminating resistor active. 3. 118 12.5.8 Resetting station ... Figure 13 OML Data Logger without Cover 1 2 3 4 5 6 7 Pressure sensor connector Communication module slots MOD1 and MOD2 SPI connector for OMD202 local display Status LED (green) Lithium battery QML Data Logger in Error Situations (Blank Setup)......120 12.6 Troubleshooting with Commands for real-time clock (3 V 35 mAh CR1220) Reset button CompactFlash (CF) card slot 12.5.3 Opening Service Connection to Sensor To control a serial sensor directly, you can access the sensor command interface through the QML data logger. Change the maintenance connection cable used. • Checking that the transducers have not been scraped or ects. After removing the filter, check the O-ring and change it if necessary. Check the output of the warnings and errors commands for indication of the probable cause: 1. 115 12.5.7 Determining Sensor Status sensors and changing the appropriate configuration parameters accordingly. Always use an external memory card in the logger, or the internal log memory may fill up. 2-3 Channel B RS-485 mode (default). Check the status indicator of the surge arrester. • Command ftp test [destination] [-user username] [-pass password] tests the connection to the FTP server. Check that the modules are in correct slots. To avoid injury, do not touch heated parts when heating is on. In the WS Selector parameter set, select the wind speed sensor to use for LLWAS wind calculation. • Monitoring the status of the drying cartridge at the tip of the sensor every month. Pin contacts of the connector have become oxidized or the connector is not firmly attached. Select Settings > Parameters > Common, and set the following: Altitude (m) The station altitude from mean sea level. To open a direct connection to a sensor, type the appropriate command. • 0 = Automatic (default) • 1 = HMP155 (serial) • 2 = HMP155 (analog) • 3 = RH from RWCC 101 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 5. Poll day of the month when to download the log files, or select poll time and the time of the day of the month when to download the log files. 64 meteorological display . TSS928[™] is a trademark of Vaisala Inc. More Information ► Data . When did it fail (date, immediately / after a while / periodically / randomly)? Open the General Settings parameter set. WindAvg 3sec Selector Selects the wind sensor for 3-second wind speed calculation. 74 HMP155 filter..... Reporting (page 43) 7.4 Polling Data In addition to automatic report messages at any time at any communication interface with report specific polling commands. The internal memory is a Flash chip with a data storage capacity of 3.3 MB. A communication module is missing or there is no script in the \cfg directory. • The optional parameter interface defines the name of the interface to use for the FTP connection. To establish a connection, select the correct weather station and OK. Heating is not enabled in the transmitter settings. Do not pour the anti-freeze solution to the public sewer system. default value is 38400. • Command time and the new time changes the current time. Active warnings: YES/NO. An expansion memory is available for data storage, if the data is not sent to an ancillary system for further use or is to be stored on the computer hard drive. Check the power supply. Any impact on the instrument or sensor array may cause damage and lead to incorrect Fields in Calibration Window. ...123 Problem Situations and Remedies with Power Supply.. ...139 U UHF radio modem maintenance..... measurements. 125 TSS928 adding to system..... ..104 txdelay...82 updating software QML201C 139 LEDs OML201C..... 7. In the Lightning Selector parameter set, select the lightning sensor to use. 17 AWS310-SITE Configuration and Maintenance Manual M212032EN-A WARNING! If the equipment is used in a manner not specified by Vaisala, the protection provided by the equipment is used in a manner not specified by Vaisala, the protection provided by the equipment is used in a manner not specified by Vaisala, the protection provided by the equipment may be impaired. You can clear this warning. in algorithms test each measurement. CAUTION! When changing QML data logger parameters, for example, in sensor calibration or setting parameters, an incorrect decimal symbol may result in errors. AWS Client supports any number of serial ports available on the computer. At least once a year, check that the internal wiring is in order and that all Use this option only if you cannot use the memory card. 9.1.2 Restoring Station Parameters If you have backed up the station parameters, you can restore the station-specific settings to the QML the screws on the mounting clamps are firmly tightened. Setup is corrupted. 23 Example of Terminal Showing Report.... data logger. System shuts down immediately when external power supply is cut off. It can damage the front surface of the module. In addition to adding software support for the sensor, the new observations must be configured in AviMet software. Existing Log File Select the action in case there is an existing log file with the same name. To check the serial no: 621115 DSI486 rev: E serial no: 611504 /Cfg/SITEv000.adc 8.05 Vaisala 2017-12-14T08:54:37+00:00 SITEvrc1 EDED60B9 9.10 65h 29min 45sec since Fri Dec 15 23:44:39 2017 Table 24 Contents of sysinfo Command Output Parameter Explanation Serial # Serial number of the PCB of the QML data logger. warnings clear clears the warnings. If you do, there is a risk of explosion. If you do not read and follow instructions carefully at this point, the product could be lost. WARNING! Do not replace components when the system is powered up. In the CFG parameter set, select PTB330. 102 TSS928.... . To change the batteries, switch off the battery fuse. To do this, remove the vane or cup-wheel assembly. When you have recorded enough text, clear the Trace log on option. Unplug the connectors from the QML data logger. To complete the grinding, smooth the sensor surface around the optical sensor with sandpaper and water. function. If you use a serial line connection, the COM port must be free and assigned to AWS Client. 82 Chapter 10 - Maintenance WARNING! Some instruments and sensors or versions are heated. In the Value field, type the wind direction offset in degrees. In the Default station, the COM port is set to 1.4. Use a belt grinding machine or similar to lower the DRS511. Periodic maintenance for the wind set includes: • Checking the ball bearings once a year. The possible values are 0 (disabled) and 1 (enabled). Lightning strike damage. To fulfill these requirements, it is recommended that you recalibrate the sensor every 24 months. The manufacturer recommends that you use Thermoschema's POWERCOOL DC 924-PXL. Format the memory card in a Windows computer. CAUTION! Do not enable sensors that are not part of the system. 22 Chapter 4 - Setting up Service Connection 4. Setting up Service Connection 4.1 Connecting to Station To configure the weather station, open a service connection to the OML data logger. Use the FAT (not FAT32) file system. In AWS Client, select Maintenance > AWS Cleanup. 44 compliance..... .. 66 QMT107 adding to system.... ...105 maintenance...... ... 70 10.6 Solar Panel Maintenance / W> warnings clear More Information • Troubleshooting with Commands (page 120) 12.6.3 Checking System Information To acquire a report that contains system information, use the sysinfo command. When the ...70 10.7 Inside Enclosure Maintenance LLWAS mode is enabled, only wind sensors are active in the weather station. The report type and appearance depend on your setup. Upgrades... . Always ground the enclosure to a suitable grounded location with a short, low-resistance cable. 64 FS11 adding to .. In ambiguous cases, the English versions are applicable, not the translations. Check the cabling and mechanical structure visually. Vaisala recommends that you test the proper operation once a year or system.. ..103 FS11P adding to system......103 G general settings..... RG13(H) to System (page 102) Adding OTT Pluvio2 L to System (page 103) Adding PWD22 to System (page 103) Adding FS11 or FS11P to System (page 104) Adding TSS928 to System (page 105) Adding CL31 to System (page 105) Adding TSS928 to System (page 104) Adding TSS928 to System (page 105) Adding TSS928 to System (page 104) Adding TSS928 to System (page 104) Adding TSS928 to System (page 104) Adding TSS928 to System (page 105) Adding TSS928 to System (page 104) Adding TSS9 11.2.1 Adding WMT700 to System Before configuring the new sensor, complete the mechanical installation. Verify proper ground contact in all four GND pins. WARNING! Lightning strikes and lightning-induced current surges. If you remove the sensor from the ground, clean the dirt accumulation on the sensor surface using a soft, lintfree cloth moistened with mild detergent. zs Zmodem command for sending a file from the QML data logger (used instead of the AWS Client function). Install the probe back inside the radiation shield. assumes no liability for the customer's failure to comply with these requirements. More Information + Downloading Log Files Automatically (page 59) 63 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 8.6 Formatting External Memory Card Format the memory card before use. H Analog input (low) C The pin has been connected to ground (GND) via a 10 Ω resistor so that the current can be measured. To avoid erroneous measurements, avoid tipping the cup assembly when the gauge is connected to the weather station and the station is operating. To set your download options, select Settings. 103 11.2.10 Adding CL31 to . 109 AWS310-SITE Configuration and Maintenance Manual M212032EN-A More Information + Configuring Sensor Parameters (page 37) + Troubleshooting OML Data Logger • Maintenance cable and a laptop computer with the applicable System. versions of the setup files and AWS Client • Keys for the enclosures • Multimeter • Slothead screwdrivers, especially small ones • Crosshead screwdrivers, especially small ones • Crosshead screwdrivers, especially small ones • Crosshead screwdrivers, especially small ones • Wrenches or adjustable wrench • Allen keys • Applicable spare parts (for example, a new QML data logger) • Safety helmet when tilting the mast More Information • • • • • • • Determining QML Data Logger Operation Mode (page 112) Troubleshooting Connection to Sensor (page 112) Troubleshooting Connection Problems (page 113) Recording Text in Terminal Window (page 114) Problem Situations with QML Data Logger (page 115) Determining Sensor Status (page 118) Resetting QML Data Logger in Error Situations (Blank Setup) (page 120) 12.5.1 Determining QML Data Logger Operation Mode To determine the operation Mode To determine the operation Mode To determine the selected files to the CSV format, select Convert. 34 Chapter 5 -maintenance procedures when there is a risk of thunderstorm or lightning activity in the area. parameters [-opt -d(efaultsonly)]-o(verwrite)] -p(reserve)] Loads or saves static parameters and parameter sets from or to . 47 meteorological display 2..... . New samples are added in log group L2 at 15-second intervals. If there is an open connection with another logger, the connection is not closed and the auto download does not succeed. 77 checking position DRS511.... Disturbance from the installation site is causing measurement problems. When selected, the following options become . 89 PTB330..... available: • Merge log files of the same group: Merges log files from different dates belonging to the same log group. e. Do not use in RS-232 mode. 108 Chapter 12 - Troubleshooting • The status of the sensors is 0 or ////. 55 logging.... .53 commands.. 49 wind secondary . 69 10.4 Sensor Support Arm Maintenance ..49 OML201C channels... .. • Command logshow L1 40 shows 40 lines of the current day. 43 service connection..... display.23, 29 settings general... .. As AWS Client was not initially designed to operate with UAC, the settings on your computer may prevent AWS Client from operating properly. 54 Example of Logged Data in Spreadsheet Program.. ..69 10.5 Enclosure Maintenance .59 Auto . Lizard version Version of the Lizard Setup Software that was used to create the setup. 94 Chapter 11 - Upgrades 11.1 Updating QML Data Logger Software To use the new features published by Vaisala, you may need to update the QML data logger software. 26 Download Status Window. Chapter 4 - Setting up Service Connection 3. Memory card is not correctly formatted. 47 meteorological display 2... ..48 optical display... ... LOGFS Erases all data in the log system and resets the QML data logger. The sensor surface must be in horizontal position so that moisture spreads equally on the surface. 66 B backing up configuration..... Check that the power supply is connected and operational. 11.2.12 Adding DRS511 to System Before configuring the new sensor, complete the mechanical installation. Select Maintenance > Reset > Immediate. Check the standard commands. For example, pCOM3. Check that the QML data logger, power supply, and communication devices are connected properly. Clean the filter by removing the end cap from the filter tube. Check the connector. In the confirmation window, select Yes. If you activate additional sensors simultaneously, the log files may become too large and the system cannot save them. 37 Configuring Sensor Parameters... . Take special care when updating parameters remotely. 56 Chapter 8 - Configuring Logging 9. QML data logger is damaged. • Command errors clear sthe errors. 116 Chapter 12 - Troubleshooting Problem Probable Cause Remedy Sensor is not sending data, or sends errors. port, launch the Vaisala USB Instrument Finder program from the Start menu. To read the latest sensor status and measurement values, select Refresh. WARNING! Do not replace the battery with a battery with a battery with a battery and measurement values. ...20 J jumpers.. .19 USB driver... . Check the battery status and make sure that the battery regulator is working: 1. WARNING! Do not operate in an explosive atmosphere, for example, when flammable gases or fumes are present. Client. wdoffset 1 wdoffset 2 Wind direction offset for the primary and secondary wind sensor. reports to local service port COM0. More Information • Resetting QML Data Logger after Updates (page 97) 95 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 11.1.2 Updating QML Data Logger Software with Loader You can update the QML data logger software by using the loader.exe program. CAUTION! The typed characters are not visible in the terminal window. The MWV message returns a null field (,,) for wind speed or direction reading. The system may contain other customer-specific options. net • • • netif [open | close] • Command netif shows the status of all configured network interfaces. Table 37 Items in Log Group L0 Log item name Unit Description WindAvg 3sec Selector:spd m/s Average wind direction More Information + Data Logging (page 53) D.2 Log Group 1 (L1) Log group L1 contains all the information reported with 1-minute

interval. In the CFG parameter set, select FD12P. Turn off power from the weather station main switch. Check that power lines have less than 0.5 Ω resistance. Table 8 Polling Commands Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and M212032EN-A Message for AviMet and WID Displays WAREP 45 AWS310-SITE Configuration and M310-SITE Configuration and M310-SITE Configuration and M310-SITE CONFIGURACE AVIMET AVIM Name Command Wind message for AviMet WA2REP Air temperature and relative humidity message for AviMet TUREP Air temperature and relative humidity message for AviMet PRREP Atmospheric pressure message for Avi Visibility message for AviMet VISREP Cloud message for AviMet TS1REP Soil temperature 1 message for AviMet TS1REP Soil temperature 2 message for AviMet TS1R TGREP Transmissometer message for AviMet LT31 RWCC message for AviMet RWCC Data logger time message for AviMet STATBITREP TABLE LLWAS wind report WIND 7.5 Reading Fixed Display QMD202 The optional local fixed display QMD202 provides views for instant measurements and basic system information. More Information • Disconnecting Power (page 72) • Checking Battery (page 73) 10.7.4 Replacing AC/DC Power Supply Unit Slothead screwdriver 75 AWS310-SITE Configuration and Maintenance Manual M212032EN-A WARNING! Only licensed experts may install 7 Related Manuals electrical components, 1.1 1.2 1.3 1.4 About This Document. .7 Version Information. ...7 Documentation Conventions. CAUTION! The Pt100 temperature sensor is soldered to the probe. More Information • Data from External Memory Card (page 64) 8.7 Transferring Data from External Memory Card to a computer or use AWS Client. 104br (page 64) 8.7 Transferring Data from External Memory Card to a computer or use AWS Client. Table 21 Common Connection Problems and Their Remedies Problem Probable Cause Remedy You receive the message Failed to open terminal connection. 100 maintenance. FS11 .103 FS11P .85 WAA151 When you are connected to the station but the service connection is closed, messages and reports appear in the main window. The sensor is considered absent or faulty. New values are logged at 3-second intervals. This erases any erroneous data from the installation or testing phase. Default value: 0.0. troubleshooting More Information • Setting Station Parameters (page 33) 139 AWS310-SITE Configuration and Maintenance Manual 140 M212032EN-A Appendix C - QML Data Logger Connector Block The QML data logger includes: • • • • 10 measurement channels and one internal channel for pressure measurement 1 connector block for optional communication channels 2 blocks for optional communication modules Single-ended (H-C or L-C) or differential (H-L) measurements can be performed in the 10 measurement channels. • Command sname and the new name change the station name. None of the remedies above help. Open Command Prompt and go to the folder where you have the files loader.exe and bin.mot. The expected lifetime for the backup battery is 5 years. WARNING! Ground remote units properly. If you cannot use the COM1 port, connect the maintenance cable to any free COM port on your computer. • Check that the flanges at the bottom of the enclosure are intact. If you have problems loading the software (for example, the loading is interrupted and you get an error message Load Error -1, try again with all other Windows programs closed except Command Prompt. - Flashes once every 5 seconds Setup is running without errors. Clear the active errors. 11.2.10 Adding CL31 to System Before configuring the new sensor, complete the mechanical installation. 95 11.1 Updating QML Data Logger Software.. .95 11.1.1 Updating QML Data Logger Software with Memory Card... . Inspect the funnel and filter for any damage or blockage. 11.2.4 Adding PTB330 to System Before configuring the new sensor, complete the mechanical installation. To see the battery status, press the QBR101C TEST button: • If the LED is not on None Either there is no power in the QML data logger or there is a device failure. In the General Settings parameter set select wsgain 1 or wsgain 2. For example: rename /Ext/dst105.hex rep Shows the contents of a report. Parameter Name Sensor CSD3 DOORSWITCH Door switch alarm DRS511 Runway Temperature Sensor DRS511 FD12P Present Weather Detector PWD22 FS11P Visibility Sensor FS11 or Present Weather Sensor FS11P RESET Resets the precipitation sum at midnight HMP155 Humidity and Temperature Probe HMP155 (analog) LLWAS Low-level Windshear Alert System (LLWAS) mode LT31 Transmissometer LT31 Pluvio2 Rain Gauge OTT Pluvio2 L PTB330 OMD Fixed Display OMD202 OMT107 Soil/Water Temperature Sensor OMT110 (if using dual-sensor setup) RG13 Rain Gauge RG13(H) RWCC Road Weather Core Components RWCC (Message 14) SMPA 1) Global radiation sensor SMP3 / SMP6 / SMP10 TSS928 1 Thunderstorm Local Lightning Sensor TSS928 TSS928 3 Tertiary Thunderstorm Local Lightning Sensor TSS928 WAC155 1 2) Wind Set WA15 WAC155 2 3) Secondary Wind Set WA15 (if using dual-sensor setup) WMT700 1 2) Ultrasonic Wind Sensor WMT700 2 3) Secondary Ultrasonic Wind Wensor WMT700 (if using dual-sensor setup) 1) 2) 38 Set a unique value for the Sensitivity parameter for the global radiation sensors. More Information > Data Logging (page 53) 8.4 Converting Log Files to CSV Format You can convert the downloaded log files from the binary format to CSV format for viewing. In the Select File window, select the backup file. Make sure that connections to the battery are tight and free of corrosion. 6. spval [parameter] [value] Shows information on the parameter type: ••••• I = Integer R = Real S = String B = Byte array Number field with the parameter status value in hexadecimal Can also be used to set the static parameter value (see spset). 1 1 2 1 2 Cable connectors Clamp 2. 148 D.4 Log Group 3 (L3). . Check the sensor status and compare the value against the sensor status list in Vaisala Automatic Weather Station AWS310-SITE System Description. 14. 139 serial line....43 setup file downloading Frequency is not equal to 14 × revolution rate. Snow, ice, a bird, or some other object is blocking the measurement path between the ultrasonic transducers. If the malfunctioning sensor has diagnostic features, use them to find the cause. • Command netif open opens the given interface. On a very rough road surface, the sensor must lie approximately 3 mm (0.12 in) below the surface. Errors indicate that there is something wrong in the software. Insert the memory card that you use for data logging back in the memory card slot. Select Maintenance > Setup File > Upload to Logger. 82 testing..... 12 V / 20 mA adjustable excitation voltage, can be measured Fast analog input (high) L Fast analog input (low) C Common return (analog ground) 141 AWS310-SITE Configuration and Maintenance Manual Table 36 Power Channels in QML201C Pin Name Description GND Common ground SDI-12 SDI-12 sensor signal pin GND Common ground +ExtDC Power input 142 M212032EN-A Appendix D - QML Data Logger Connections C.2 AWS310-SITE Block Diagram Figure 14 AWS310-SITE Block Diagram Log Groups Appendix D. Log Groups D.1 Log Groups D.1 Log Group 0 (L0) Log group L0 contains wind speed and direction values, or it has altered more than the maximum step change allows, data is flagged as INVALID. 128 3 AWS310-SITE Configuration and Maintenance Manual Appendix A: Command Reference.. ..131 Appendix B: Station Parameters.. ..139 Appendix C: QML Data Logger ..141 C.1 QML Data Logger Connector Block... . CTRL+C Abort the file commands (dir, del, copy, move, verify). • Command spset [parameter] [value] sets a value to a static parameter. Allow the operating system to detect the driver for the cable automatically. WARNING! ice or snow accumulates on the mast, guy wires, or sensors, the ice or snow can fall and cause injury to persons below. For more information, see SETALR in Vaisala Serial Wind Transmitter WAC155 User's Guide. Clean the sensor at least every 6 months. Replace the sensor. Install the new battery. If the rains are mostly moderate and the atmospheric conditions on the site are not particularly corrosive, the sensor holds its accuracy for 2 years. logshownext [count] Used after the logshow command, logshownext shows the immediately following (later) log entries. 12.5.2 Checking Hardware 1. The sensor status is shown in the Status field. Changing the probe filter at least once a year 139 WA15 139 Warranty For standard warranty terms and conditions, see
www.vaisala.com/warranty. sysinfo [sensors] • Command sysinfo shows a summary of system information. CAUTION! Do not open the cover of the QML data logger in the field. 23 AWS310-SITE Configuration and Maintenance Manual 2. In the Log File Conversion window, set the following: Conversion Source Select the source folder. In the CFG parameter set, select RG13. The silicon rubber coating must be undamaged. No AC (mains) power. 78 QSP431. .44 RS-485 changing to RS-232. .89 RS-232 changing to RS-485. Poll Time The time when the auto download started. Note the following precautions: WARNING! Consult local electricity RG13 adding to system. .102 maintenance... professionals for the local and state legislation and regulations about grounding. 23 4.1 Connecting to Station. .23 4.2 Configuring Serial Line Connection.. .. 64 troubleshooting... .107, 109 AWS When the log files are downloaded, the connection is closed and the application continues to wait in the idle mode until a new prescheduled polling event is triggered. 86 . 109 QML Data Logger LED.. 13. loggo Starts logging the given log group. 115 replacing. ..110 Common Connection Problems and Their maintenanc 96 11.1.3 Resetting OML Data Logger after Updates. . 2. 54 log group 0.. 132 Appendix A - Command Reference Command Syntax Description ftp [destination] [-if interface] [-user username] [-pass password] [-rst restart at] [-active] [-opt options] Transfers Remedies. files to or from the QML data logger or tests the connection to the FTP server. 104 11.2.11 Adding TSS928 to System. .104 11.2.12 Adding DRS511 to System ..104 11.2.13 Adding QMT107 to System. Default value: 0.0 s (not generated). The default download folder is defined in the AWS Client Options window. Heavy contamination, such as bird droppings or ice, deteriorate the accuracy of the wind vane. 53 data reporting... . d. If they are different, the response is: warnings [clear] • Command warnings shows the active warnings. Make sure that no smears or deposits are left on the dome. Remove the cover of the QML data logger and check the CPU board and the other components. 148 M212032EN-A Chapter 1 - About This Document 1.1 Version Information This document provides instructions for configuring and maintaining Vaisala Automatic Weather Station AWS310-SITE. Completed The time of complete, select Close. 1-2 Channel B RS-485 mode (default). WA intv Reporting interval for wind message for AviMet and WID display. Check the battery wiring. 1) 2) Displayed only for the radiation sensor. Battery status LED of the battery regulator is not lit. Memory card is not properly inserted. 128 Outdated firmware. • Command help [command] displays the command Reference Appendix A - Command Reference Table 31 Help Text Syntax Generic Representation Example Use the parameter name warnings, type: Parameters shown in [] can be omitted. AWS Client does not give a single identifiable error message, but UAC can affect communication between the QML data logger and AWS Client, for example, the cleanup operation does not work. wsgain 1 Wind speed gain for the primary and secondary wind sensor. The status LED is blinking once a second. 57 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 2. 151 Warranty... ..155 Technical Support.. . The close command must be correctly typed before it can be executed. CAUTION! Caution warns you of a potential hazard. 65 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 9.2 Backing up and Restoring Station Setup After initial setup and always 10.7.7 Replacing QML Data Logger. after making changes to the station setup, take a backup of the station setup. - Status Sensor surface is too high, to lower the sensor surface is too high, to lower the sensor surface. The LLWAS application. To avoid damaging the wiring, do this from the bottom side of the installation plate. • Running the loader.exe program through the maintenance connection. In AWS Client, select Maintenance > Terminal Disconnect. To have more slack in the wires. Open the enclosure and check that all the equipment is present. Default value: 3000 ms. • Command logstatus shows the logging state and variables of the defined log group. Default value: 0.0. WIND intv Reporting interval for wind message 2 for AviMet. In the CFG parameter set, select Pluvio2. Figure 2 Service Port 4.2 Configuring Serial Line Connection 1. Check the supply voltage and wiring. There are no user-serviceable parts inside. To replace components other than the ones instructed in the following sections, contact Vaisala. To select the communication mode, wire the I/O pins correctly and modify the jumper settings of the communication for the basic maintenance of the communication mode. To change the setting for all . copy [destination file] Copies a file to another location. WARNING! Make sure that you prepare or connect only de-energized wires. Open the cover of the QML data logger. Charge the battery for a while. Figure 11 Jumper Locations for DSI486 1 2 3 Pin users, select Change settings for all users. 107 QML201C. 1 Pin 2 Pin 3 11. Send the sensor to Vaisala for repair. Type a value between -180 and 180°. 16 VDC) present in the +ExtDC input of the logger. The date and time formats specified in the AWS Client language options. Default value: 1.0 s. Cables are not connected. The file is stored in the trace log directory that you defined in the Options window. Press the status button on the battery regulator. • Command parameter in a parameter in a parameter in a parameter set. The software reads the installed serial ports from the Windows registry. Entry The station from which the logs are downloaded. Use PC time Synchronize the QML data logger time with vour computer time. Switch off the battery fuse. 126 Heating element is not properly connected or does not function. All transducers must be parallel to each other. You cannot use the BACKSPACE key to correct a mistype. If yes, try establishing a service connection with COM0 and a maintenance cable. CAUTION! Always dilute the anti-freeze solution before adding it. Connect the service port at the bottom of the enclosure. The commands are text strings sent from the computer or terminal to the QML data logger inside the weather station enclosure receives measurement data from the sensors and calculates basic meteorological variables. • 0 = Automatic (default) • 1 = WMT700 _ 2 • 4 = WAC155 _ 2 8. Power supply is not sufficient. Correct time is not set on QML data logger. The default port is 123. More Information • Checking Errors (page 121) • Chec Warnings (page 121) 120 Chapter 12 - Troubleshooting 12.6.1 Checking Errors The / E> prompt in the terminal window means that there are errors. 16 Chapter 2 - Product Overview WARNING! Photovoltaic modules generate direct current (DC) when exposed to sunlight or other sources of light. 100 Chapter 11 - Upgrades 6. 10.6 Solar Panel Maintenance WARNING! Wear rubber gloves to protect yourself against possible electric shock. 7 Related Manuals... . 7.1 Data Reporting.. ..43 7.2 Changing DSI486 Communication Mode. 11.2.5 Adding SMP Series Sensor to System Before configuring the new sensor, complete the mechanical installation. Existing log file with the same name. • 0 = Automatic (default) • 1 = CSD3 • 2 = SMP series sensor 5. Verify Adding Anti-Freeze Solution that the communication modules are functional. However, it is possible to damage the product by delivering electrostatic discharges when touching, removing, or inserting any objects in the equipment housing. 12.5.4 Troubleshooting Connection is not opened and you cannot work with the logger. New samples are added in log group L1 at 1-minute intervals. After a few seconds, the terminal displays the QML data logger startup messages. Table 38 Items in Log Group L1 Log item name Unit Description TA 1min avg:AVG % 1-minute average relative humidity PTB330:P avg hPa 1-minute barometric pressure calculated by PTB330 PR accum selector:value mm Accumulated rainfall of previous 10 minutes PR Sum:PRSum 1h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous 10 minutes PR Sum:PRSum 1h mm Sliding sum of rainfall of the previous four PR Sum:PRSum 1h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 1h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum:PRSum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of previous four PR Sum 3h mm Sliding sum of rainfall of p previous 3 hours PR Sum:PRSum 6h mm Sliding sum of rainfall of
previous 6 hours PR Sum:PRSum 12h mm Sliding sum of rainfall of previous 24 hours PR Curr mm Resetting sum of rainfall from the previous 10 minutes 1) PR reset 1 hour sum:PR Curr mm Resetting sum of rainfall from the previous hour 1) 145 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Log item name Unit Description PR reset 6hour sum:PR Curr mm Resetting sum of rainfall from the previous 6 hours 1) PR reset 10 years and 10 years PR reset 12hour sum:PR Curr mm Resetting sum of rainfall from the previous 12 hours 1) PR reset 24hour sum:PR Curr mm Resetting sum of rainfall from the lightning sensor SR Wm2 1-minute average solar radiation SS Selector:value Sunshine status: • 1 = The sun is shining • 0 = The sun is not shining SunShine24h:Sum Last min Sunshine duration from the previous 24 hours 2) Watt m2 ToJoule cm2:value J/cm2 Radiant exposure. Typically, the LLWAS site consists of several AWS310-SITE stations that are installed around the runway and connected to the AviMet system. through radio links. Warnings indicate that there are some problems in the software. 68 10. The contents of this manual are subject to change without prior notice. To avoid delivering high static voltages to the product: • Handle ESD-sensitive components on a properly grounded and protected ESD workbench or by grounding yourself to the equipment chassis with a wrist strap and a resistive connection cord. In addition to measured values, most of the display screens contain the corresponding sensor status, usually in the rightmost column: 46 Chapter 7 - Configuring Data Reporting • 0 = Observation status is NK • Other than 0 = Observation status is not OK or has some other status and the corresponding sensor status is NK • Other than 0 = Observation status is NK • Other than 0 = O Table 9 Parameters of Meteorological Display 1 Observation Explanation Unit Statistic Period TA Air temperature °C Instant value from sensor 10 s PA Barometric pressure hPa Instant value from sensor 10 s RH Relative humidity % Instant value from sensor 10 s PA Barometric pressure hPa Instant value from sensor 10 s RH Relative humidity % Instant value from sensor 10 s PA Barometric pressure hPa Instant value from sensor 10 s RH Relative humidity % Instant value from sensor 10 Configuration and Maintenance Manual M212032EN-A 7.5.2 Meteorological Display 2 Table 10 Parameters of Meteorological Display 2 Observation Explanation W/m2 Instant value from sensor 10 s SS Sun ON/OFF (CSD3 only): - Calculation 60 s • 1 = Sun ON • 0 = Sun OFF More Information + Reading Fixed Display Observation Explanation Unit Statistic Period WS Wind direction ° Average 3s WD Wind direction ° Average 3s WD Wind direction Configuring Data Reporting Observation Explanation Unit Statistic Period Sensor The sensor used for wind observations: - - 3s • 1 = WMT700 2 or WAC155 1 • 2 = WMT700 2 or WAC155 2 More Information • Reading Fixed Display Observation Explanation Unit Statistic WS Wind speed m/s Instant value from sensor WD Wind direction ° Instant value from sensor st Sensor status - - More Information Information + Reading Fixed Display QMD202 (page 46) 7.5.5 Wind Secondary Display 49 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Table 13 Parameters of Wind Secondary Display 49 AWS310-SITE Configuration Information Infor direction ° Instant value from sensor st Sensor status - - More Information + Reading Fixed Display OMD202 (page 46) 7.5.6 Soil and Runway Display Observation Explanation Unit Statistic Period TS1 Soil temperature 1 °C Instant value from sensor 10 s TS2 Soil temperature 2 °C Instant value from sensor 10 s TR Runway temperature °C Instant value from sensor 10 s TG1 Ground temperature from the topmost temperature probe of OMT107 °C Instant value from sensor 60 s More Information + Reading Fixed Display OMD202 (page 46) 50 Chapter 7 - Configuring Data Reporting 7.5.7 Optical Display Table 15 Parameters of Optical Display Observation Explanation Unit Statistic Period VIS Visibility m Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s BL Background luminance cd/m2 Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant value from sensor (FS11P, FD12P, or LT31) 1) 15 s PW Present weather code Instant v (CL31) 15 s VV Vertical visibility m Instant value from sensor (CL31) 15 s 1) LT31 requires that the PWD option is set on in LT31 configuration • Disconnecting Power (page 72) 10.7.5 Replacing Surge Arrester If the indicator on top of the surge arrester plug is red, replace the unit. When the service connection is closed, the service connection is closed, the service connection is closed as an accessory. • The optional port parameter specifies the port to use for the connection. See Troubleshooting with Commands (page 120). QML data logger may be damaged. Send the probe to Vaisala for calibration. 59 8.5.1 Viewing Status of Automatic Downloads... ..63 8.6 Formatting External Memory Card. ..64 8.7 Transferring Data from External Memory Card.. ..64 9. 145 log group 1. .145 log group 2.. .148 log group 3... .148 Their
Remedies Problem Probable Cause Remedy Data is not received from the sensor. In the event this product contains OSS components, then such OSS is governed by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS is governed by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS is governed by the terms and conditions of the applicable OSS is governed by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS is governed by the terms and conditions of the applicable OSS is governed by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS is governed by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of t this product. The cleanup erases the following data from the QML data logger: • Static parameters and parameter get power. In the Address Book window, select the address book entry for the correct station, and select OK. Communication modules are in wrong order. 90 Chapter 10 - Maintenance If necessary after precipitation, manually make sure that the anti-freeze solution is well mixed in the collecting bucket. Periodic maintenance for WMT700 includes: • Checking that the transducers are not bent, twisted, or rotated. Logs From The time period from which logs are downloaded. 1. The setup file upload to the QML data logger starts. Use the AWS Client software to configure the weather station. 37 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 3. 90 10.16 DRS51143 resetting QML201C...... ... Communication is not working properly, 45 number ...20 restoring station parameters...... parameters change the settings of a port. The sensor is not powered properly. • • • • 0 = Automatic (default) 1 = WMT700 12 = WAC155 2 0 = Automatic (default) 1 = TSS928 connected to DSI486 1 03 = TSS928 connected to DSI486 1 10 = Automatic (default) 1 = TSS928 connected to DSI486 1 03 = TSS928 connected to DSI486 1 10 = Automatic (default) 1 = TSS928 connected to DSI486 1 03 = TSS928 connected to DSI486 1 10 = Automatic (default) 1 = TSS928 connected to DSI486 1 03 = TSS928 co HMP155 (serial) 2 = HMP155 (analog) 3 = RH from RWCC 0 = Automatic (default) 1 = HMP155 2 = HMP155 (analog) 3 = TA from RWCC Chapter 6 - Configuring Sensors Parameter Set Name Description Values WS Selector Selects the wind speed sensor for LLWAS wind calculation. The name must be the same as the one used in the QML data logger. Any overflow causes inaccurate measurements, but does not damage the balance system. This command is not usually needed. Disconnect the power and replace the communication modules. If you receive the following warning, check that the parameters sname, pslevel, and altitude are set. Software or hardware changes were made to the18 2.4 Regulatory Compliances.. selector components detect the available sensors automatically and select the lowest-numbered available sensor. For example: serial 0 9600 N 8 1 Available options: • • • • Speed: 300 ... Use the file extension .xml. 102 11.2.7 Adding OTT Pluvio2 L to System...... ...103 11.2.8 Adding PWD22 to . 35 AWS310-SITE Configuration and Maintenance Manual 36 M212032EN-A Chapter 6 - Configuring Sensors 6.1 Configuring Sensors 6 ...75 10.7.5 Replacing Surge Arrester77 10.7.6 Checking QSP431 weather station. 73 10.7.4 Replacing AC/DC Power Supply Unit..... .. 84 Chapter 10 – Maintenance Disable heating before performing the verifier test. • Check gaskets of the enclosures and mechanical assemblies, bolts, nuts, and so on. Verify that the correct configuration is loaded in the QML data logger. 142 Items in Log Group L0... .. More Information > > > > > > > > > > > > > > > Writing Problem Report (page 107) Generating TABLE Report (page 108) Basic Troubleshooting (page 109) Troubleshooting WMT700 (page 125) Troubleshooting WA15 (page 126) Troubleshooting WA15 (page 126) Troubleshooting WMT700 (page 125) Troubleshooting WMT700 (page 125) Troubleshooting WA15 (page 126) Troubleshooting WMT700 (page 125) Troubleshooting WMT700 (page 126) T OTT Pluvio2 L (page 128) 12.2 Writing Problem Report When troubleshooting the product, write a problem report including: • • • • • • What failed (what worked / did not work)? 131 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Table 33 Commands Commands Syntax Description altitude [meters] • Command altitude shows the current station altitude in meters from sea level. Each log group includes specific parameters as defined in the setup file. Running the loader.exe program takes about half an hour. The system stores data locally to a removable CompactFlash (CF) card, and the data can be made available to the customer through an RS-485 serial line connection with a high data rate. The log files are stored in the /Ext/ subfolder. When the LLWAS mode is disabled, QML data logger does not write any data to log group 3. Check that the gauge is still level. Table 20 QML data logger does not write any data to log group 3. Check that the gauge is still level. edit the settings for hardware that is correctly installed and configured in the system. - Channel Measurement channel of the sensor. For each parameters are cross-checked. To save the changes, select Save. Technical Support Contact Vaisala technical support at Provide at least the following supporting information of a technical person who can provide further information on the problem For more information, see www.vaisala.com/support. To start downloading the log files, select Download. 79 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 5. WARNING! The system is powered from several power sources to ensure uninterrupted service. To perform this operation, you must have administrator privileges to Windows. 86 Chapter 10 - Maintenance 2. To start copying the new software, type the command SWLOAD and press ENTER. 127 12.10 Troubleshooting OTT Pluvio2 L..... • Command EXTFS ERASE formats the card. When you have loaded a new setup: 1. 12 2.1.2 AWS310-SITE Options.... 1 2 3 4 5 6 Hex screw Flat cable connector Battery terminal Washer Spring washer Hex nut 3. 82 10.8 QOL111 Maintenance82 10.9 WMT700 Maintenance.... ...95 soil and runway display..... .. 125 WMT700 Problem Situations and Their88 software updates.... ...127 WAC155 Problem Situations and Their Remedies..... .. In the WD Selector parameter set, select the wind direction sensor to use for LLWAS wind calculation. 9 AWS310-SITE Configuration and Maintenance Manual 10 M212032EN-A Chapter 2 - Product Overview 2.1 Vaisala Automatic Weather Station AWS310-SITE Vaisala Automatic Weather Station AWS310-SI scrub brush. 105 11.2.14 Adding QMT110 to System.. Electrostatic Discharge (ESD) can damage electronic circuits. Check that signal lines from X1 to X2 connectors have 15 ... 16 Ω resistance. To match the proper wind direction, rotate WMT700. Use correct, high quality tools. Restore the station parameters. 127 OTT Pluvio2 L Problem Situations and Their Remedies..... Syntax.. where to store the trace log files. Frequency The Polling frequency value set for the download. The battery regulator is broken. • Skip: Skips the saving of the new file. / E> errors clear 3. Before restarting with a blank setup, contact Vaisala to get a new setup file that you can upload to the QML data logger. System has been damaged due to a power surge. CAUTION! Do not open the enclosure under poor conditions, for example, during rain or with dust in the air. Some of the sensor troubleshooting instructions are not included in this manual but in their own manuals. ifpriority [interface] Displays and modifies the priority order of network interfaces. CAUTION! Erasing station settings from a remotely managed QML data logger may render it inaccessible for further remote maintenance. Follow the instructions in the AWS Client Setup Wizard. 0 indicates that the sensor is not enabled. You can perform the test either in the field or in a laboratory. Connect the cables. open Opens a service connection. Set time Set the time manually. In Check if the AC (mains) is off. 7 AWS310-SITE downloaded (to conserve storage space). 78 R recording text...34 6. • Delete local files after conversion: Deletes the downloaded binary log files ..91 10.16.2 Lowering DRS511..... ...92 10.17 QMT Maintenance 10.16.1 Checking DRS511 Position..... configure certain parameters, such as site information and messaging settings. The subsurface temperature sensor does not need regular maintenance. The following options are available: • Overwrite: Overwr Problem Situations and Their Remedies Problem Probable
Cause Any technical problem Vandalism. • The parameter -type defines the content types. Xhtml). This can be useful for troubleshooting purposes. CAUTION! Do not open the instrument or sensor. WARNING! Failure to comply with these precautions or with specific warnings elsewhere in these instructions violates safety standards of design, manufacture, and intended use of the product. When you restart with a blank setup, the serial port settings of the QML data logger are restored to their defaults: COM0, 9600, N, 8, N, 1. All the parameters are automatically created on the QML102 SMP series...... cd Changes the current directory. Table 6 Serial Line Parameters Parameters Parameters Value Speed 9600 bps Data bits 1 Parity None The reporting interval is different for each data report. 121 AWS310-SITE Configuration and Maintenance RG13. [-pass password] uploads a file from the QML data logger to the FTP server. Invalid data is typically displayed as ///// (this is a parameter that you can set). Check that the terminal window is not already open. The cleanup includes multiple steps, and takes a while to execute. 95, 96 USB driver installing.... Downloads To keep track of your auto downloads, in AWS Client, select Maintenance > Log file > Auto Download Status. More Information • Troubleshooting with Commands (page 120) 12.6.2 Checking Warnings The / W> prompt in the terminal window means that there are warnings. 11.2.8 Adding PWD22 to System Before configuring the new parameters for the measurements: • Maximum value: the maximum climatological value for the sensor measurement. Insert the pressure tube to the nozzle in the lower right corner of the new QML data logger. Replace it with a calibrated spare probe, if available, or wait until Vaisala sends the probe back from calibration. Place the calibrated probe inside the radiation shield. 44 Example Output of logstatus Command...... .. Battery is empty. 11.2.6 Adding RG13(H) to System Before configuring the new sensor, complete the conditions included in the applicable supply contract or, in the absence of separate license terms and conditions, by the General License Conditions of Vaisala Group. 14 Serial Line Parameters.... Maintenance Manual M212032EN-A 3. 88 cleaning..... . 8 Trademarks.. nomenclature. . In the Select File window, select the destination file for storing the parameters, 37 Configuring Sensor Selectors...... . Factor 2) Measurement gain for all but the radiation sensors. Holding the filter by the plastic part, rotate the filter counter-When the driver installation is complete, connect the USB cable to a free USB port on your computer. WMT700 is sending irregular data values. 47 Parameters of Meteorological Display 2. clockwise, then pull it out. Wait for the cleanup to complete. reports to local 2 Sends reports to local serial port on DSI486 1 1. 11 2.1 Vaisala Automatic Weather Station AWS310-SITE... • Check signal and main cables, grounding cables, lugs, connectors, and connections. 94 11. Write the command and the parameter in upper ...125 12.8 Troubleshooting WMT700...... ...125 12.9 Troubleshooting WA15... ...126 12.9.2 Problem Situations with WAA151... In the CFG parameter set, select FS11P RESET. 107 PTB330 adding to system...... ...102 Index maintenance..... ...81 PWD22 adding to Problem Situations with WAV151. system ...46 lightning display..... the time it takes for an ultrasonic signal to travel from one transducer to another. Backup batteries are defective. In this case, the selected sensor was directly connected to calculations and reports. 119 AWS310-SITE Configuration and Maintenance Manual M212032EN-A When a value is expressed as N/A, it indicates that the calibration factor has been altered but not saved, the sensor has not been measurement channel has failed, or the sensor is disabled. Applicable media, depending on each individual product itself or provided to you. 89 10.15 setting. TU WID Sends the TU message to WID displays. For instructions, see manufacturer documentation. 132 General Settings...... .. 108 WA15..... Periodic calibration of WMT700 is not required for technical reasons. 139 wind display... Unit Statistic Period TOTAL Total number of lightning strikes Instant value from sensor 60 s Status Sensor status - - - More Information > Reading Fixed Display QMD202 (page 46) 52 Chapter 8 - Configuring Logging 8.1 Data Logging Although single modules produce low voltage and current, contact with module output wiring can cause shocks and burns. When the file upload is ready, the QML data logger starts executing the new setup according to the settings in the setup file. More Information + Backing Up Station Parameters (page 65) + Restoring Station Parameters (page 65) 9.1.1 Backing Up Station Parameters You can create a backup file of station-specific settings from the QML data logger. Switch the power back on and check that the new battery works properly. Leave it empty. All other product or company names that may be mentioned in this publication are trade names, trademarks, or registered trademarks of their respective owners. Check the maintenance cable connection. In Value, type 1 to enable the sensor. If the rain gauge is disconnected from the station or does not log data, check the balance arm of the bucket for stiffness. Set the terminal settings to 9600, 8, 1, n and type the command open. In the Delayed Reset window, type the delay (in Follow the statutory regulations for disposing of the product and packaging. 44 L latitude..... ... 110 lightning display..... ...52 LLWAS site 10.13 CSD3 Maintenance Periodic maintenance for CSD3 includes: • Cleaning the exterior glass tube of the sensor using water or alcohol. Local rules and regulations may vary and they shall take precedence over the information contained in this manual. To navigate between the views, press the buttons on the display. QML data logger configuration may be broken. When the upload is complete, select Close. Clean the sensor head carefully with a wet 69 10.1 Site Maintenance. .69 10.2 Station Maintenance . wipe, txdelay LLWAS reply delay. Maintenance, . Heating is disabled when the system is running on backup battery. 14. AWS310-SITE Configuration and Maintenance Manual M212032EN-A More Information > Data Logging (page 53) D.3 Log Group 2 (L2) Log group L2 contains all the information reported with 15-second interval. Due to the operating principles of the sensor, no maintenance is required. For example: rep MyRep0 reset [delay (seconds)] Resets the QML data logger (warm boot). Any modification voids your warranty. If yes, replace the power supply. General error in QML data logger. Improper or loose connections. Right-click the AWS Client shortcut icon, and select Properties. Software Operating software version of the QML data logger and checksum. Check that the modem cable is connected . 66 9.2.2 Uploading Setup File..... properly. 88 10.12 SMP Series Sensor Maintenance...... 113 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Problem Probable Cause Remedy You receive the message Failed to open connection. Insert the USB stick or the CD-ROM into your computer. Translated manuals and translated portions of multilingual documents are based on the original English versions. logstop Stops the logging of the defined log group. Program flash Total amount of program memory. 50 Parameters of Soil and Runway Display... . When leaves are falling and there is a lot of debris in circulation, check the sensor more often. To activate the new sensor configuration and take the settings into use, reset the QML data logger. If you have multiple weather stations in the same network, and you are going to access them over the same connection, type an alphanumeric string that uniquely identifies the station for which you are creating an address book entry. More Information > Checking QSP431 (page 77) 10.7.7 Replacing QML data logger. The LED is visible through the cover of the QML data logger. Take a backup of the station parameters. Check that AC (mains) power is connected and that the AC power connectors are properly attached. To change the default folder for uploading setup files in AWS client, select Settings > Options. CAUTION! Any temporary object (such as snow, ice, or a bird) that blocks the observation path between the ultrasonic transducer heads may lead to inaccurate or incorrect measurements. logstatus Shows the logging state and variables of the defined log group. Open a text editor and create a .bat file. 85 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Check the operation of the wind set whenever you tilt the mast. Take a photo to help the troubleshooting. • 0 = Automatic (default) • 1 = • Check that the door is firmly closed. If the module surface is dirty, gently clean it using a soft, lint-free cloth moistened with mild detergent. Sliding sum calculated from the previous 24 hours. Clean it using a soft, lint-free cloth moistened with mild RG13(H) • 2 = OTT Pluvio 2 L 4. 97, 120 restoring configuration..... detergent. 33 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 1. PA WID Sends the PA message to WID displays. 31 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 2. 66 9.3 Cleaning AWS Settings..... ... • Command warnings clear clears the active warnings. • Parameter opt -o overwrites static parameters and parameter sets. This causes inaccurate measurement results. 1 2 3 4 5 Surface temperature sensor 2. If the AC (mains) power is connected and viable, the weather station continues to operate normally during the battery change. 9.2.2 Uploading Setup File You may need to update the setup file, for example, to fix a problem or to introduce a new feature. More Information • OTT Pluvio2 L Maintenance (page 89) 10.15.2 Adding Anti-Freeze Solution The freezing of the collected precipitation of > 200 mm (7.87 in) deforms the collecting bucket floor, tips the bucket, and
makes the bucket lean against the pipe housing (force shunt). Vaisala recommends that you select automatic (0) for all possible options. AWS Client waits in the idle mode until polling is triggered. • Parameter opt -p preserves static parameters and parameter sets. Press the top side of OSP431, grip the aluminum clamp on the opposite side, and lift from the DIN rail. CAUTION! A full collecting bucket is heavy. 133 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Command Syntax Description logshow] [start (YYMMDDHH)] [count] [item 1 item 2 ...] • Command logshow L1 shows 1 line of the current day. 84 ... Table 7 Jumper Settings for DSI486 Jumper Connected Pins Function X3 1-2 Channel B RS-232 mode. 114 Chapter 12 - Troubleshooting 4. In the Value field, type the resolution in mm. To reset the QML data logger with the reset button, open the cover of the QML data logger and quickly press the WMT70VERIFIER.. reset button. DC power supply is missing. Use a multimeter to measure if the power supply is getting AC power. If you want to use the RS-232 mode, change the communication mode in the jumper settings. Damaged OML data logger Replace the logger and return the damaged one to Vaisala for repair. 31 communication mode The downloaded log files are located in the folder defined in the Log File Storage Directory field. 12 optical display.....51 OTT Pluvio2 L adding anti-freeze solution...... ...90 adding to system...... ..103 emptying collecting changing.. .. Vaisala USB Instrument Finder is included in the documentation and software USB stick for the weather station. This does not indicate that sensor or instrument is .90 maintenance..128 P parameters...... bucket.. faulty. 104 Chapter 11 - Upgrades 4. Setup is not loaded properly. Sensor malfunction. 7 System Components.... .. In AWS Client, select Settings > Parameters > Common. The Telephone section is not needed. 5013 Sensors...... . Heating power is not connected properly. For more information, see Windows Help. 23 4.2.1 Changing COM Port.... ...26 4.3 Establishing Connection to solar panel maintenance. 53 8.1 Data Logging..... .27 4.4 Opening Service Connection with AWS Client.. pslevel [meters] • Command pslevel shows the current Station. .29 4.5 Issuing Commands. ...29 4.6 Closing Service Connection. ...88 channels QML201C.....141 checking battery..... logdel lastdate () Deletes log files from the defined log group dated earlier than the given date. 94 QMT110 adding to pressure sensor level. 70 C calibrating HMP155.... ...105 maintenance..... The division to different groups is based on the update interval of the data being logged. 73 QSP431...... Battery fuse is off. 53 formatting..... ...64 transferring system.. . Cleaning the radiation shield using a soft, lint-free cloth moistened with mild detergent. Check the position of the sensor with the installation plate or a spirit level. time [HH MM SS YY MM DD] • Command time shows the current time. CTRL+P, CTRL+N Scroll through the list of previously typed commands: • P: data. previous • N: next CTRL+P. ENTER Repeat the previous command. 65 changing COM port.....77 system components..... ... 121 12.6.2 Checking ... In Serial Port, select the COM port used for the service connection. Replace the lead-acid battery every 5 years. The wind site is installed next to the runway. To save your conversion options and to return to the Log File Conversion window, select Save. In these cases, you can use selector Warnings components to select the sensor that is used as the data source. More Information > Disconnecting Power (page 72) > Replacing 26 V Battery • Allen keys • Slothead screwdriver WARNING! Only licensed experts may install electrical components. If the station name begins with a digit or contains a space, the name must be in guotes. 20 Chapter 3 - Initial Setup 3.5 Running AWS Client in Administrator Mode Windows deploys User Account Control (UAC), a protection mechanism which improves security against unauthorized or unintentional access to various system resources. Station parameters are incorrect. For example, WMT700 is such a sensor. More Information • WMT700 Maintenance (page 82) 10.10 WA15 Maintenance 2-mm Allen key The wind set holds its accuracy in all conditions for one year. 98 11.2.1 Adding WMT700 to System..... ...99 11.2.2 Adding WA15 to System... ... 97 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 2. • Command paramsetclear removes parameters in a given set. See Enclosure Maintenance (page 70). Use a multimeter to measure if the QML data logger is getting power. Switch off the supply voltage. 73 10.7.3 Checking Battery Do not use solvents or a pressure washer to clean the sensor, since they may damage the silicon rubber transducer sleeve. 23 administrator mode..... that snow does not touch or cover the enclosure and connectors. Check the QML data logger time and date, especially when you start it for the first time after the system has been without power. • • • Visibility Selector Selects the visibility and present weather sensor. The warning messages are not usually serious, but useful for troubleshooting. Check that signal lines are not shorted to ground or each other. M212032EN-A If program Flash checksum returns an error, reload the software. If you have not reset the OML data logger and the warning still occurs, contact del [filename] Deletes the specified file. Precipitation output is invalid. 65 serial line connection..... Vaisala technical support. 15 AWS310-SITE Configuration and Maintenance Manual M212032EN-A WARNING! Do not service the system alone. 10.8 QOL111 Maintenance GOL111 Can operate maintenance of time, replace the battery. The gauge can become tilted as a result of small ground movements, such as frost, or vandalism. Set a lower value for the parameter. System RAM Total amount of memory on the QML data logger. Set the wind speed gain. 12. 63 converting to CSV..... 48 7.5.3 Wind When this happens, the response time becomes longer and measurement accuracy decreases. Access the service interface for the intelligent sensors through the OML data logger. Check the active errors. Failure to provide proper grounding can result in injury or death from electrical Display.. shock and can severely damage the equipment. All legally binding obligations and agreements are included exclusively in the applicable supply contract or the General Conditions of Sale and General Conditions of Sale a again, the AWS Client terminal window displays the text Setup running ok. Release the DIN rail locking piece and remove the unit. Turn off DC power from the battery fuse switch. 10.7.9 UHF Radio Modem Maintenance The UHF radio modem requires no field maintenance. If necessary, you can verify the distance between the transducer arms with an optional verifier. 13 log files automatic download..... .. To change the Windows regional settings and the decimal symbol, use the Windows Control Panel. Take special care when updating the parameters over a remote connection, as incorrect values may cause you to lose the remote connection to the station. To make sure this matches the port assigned for the USB serial port, launch the Vaisala USB Instrument Finder program from the Start menu. Internal temperature of the QML data logger. LASTVAL [F(orce id)] [S(ensor status)] Shows the measured value before any validation and the status produced during validation. To define the interface settings and to send the air temperature and relative humidity message (TU) and atmospheric pressure message (PA) to the WID displays, set the correct messaging parameters. Where did it fail (location and environment)? 18 3. CAUTION! Do not change the name of the setup file. For example, if you have turned your computer off, you can ignore these warnings. Turn off the mains switch and make sure that there is no AC (mains) power available for the power supply unit. Green LED does not light on all power supply end to the setup file. ..155 4 M212032EN-A List of Figures List of Figures Figure 1 Figure 2 Figure 3 Figure 4 Figure 5 Figure 6 Figure 7 Figure 8 Configuration and Maintenance Manual M212032EN-A 3. • Command logshow L1 170618 10 shows 10 lines starting from 18th June 2017. 155 Recycling... Set the resolution for the sensor. It also monitors sensor status, performs data quality control, and formats data for output in application-specific formats. 21 AWS310-SITE Configuration and Maintenance Manual Figure 9 Figure 10 Figure 11 Figure 12 Figure 13 Figure 14 Sensors Supported by AWS310-SITE... M212032EN-A 3. Generate the TABLE report by typing TABLE in the terminal window. 52 Logging Commands..... ... More Information + + + + Changing DSI486 Communication Mode (page 44) Setting Messaging Parameters (page 45) Polling Data (page 45) Reading Fixed Display QMD202 (page 46) Generating TABLE Report (page 108) 43 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 7.2 Changing DSI486 Communication module has 2 isolated RS-485 lines (channels A and B), one of which can be configured for RS-232 use. 4.3 Establishing Connection to Station 1. Secure setup upload attempts to keep a valid setup in the QML data logger at all times, which minimizes the risk of the logger becoming inaccessible for remote maintenance if an error occurs during setup update. • If the LED is red, the battery is empty (level < 10 V). WARNING! Installations must be performed only by people with experience in installing or working with weather stations. Setup CRC Setup checksum. Slip the verifier over the 3 transducers. 50 Optical Display..... ... 111 OTT Pluvio2 L....128 power supply.....125 problem report.... ... More Information • Changing HMP155 Probe Filter (page 86) > Sending HMP155 for Calibration (page 88) 10.11.1 Changing HMP155 Probe Filter Over time, the probe filter becomes contaminated with matter that you cannot
remove by cleaning. More Information > Updating QML Data Logger Software with Memory Card (page 95) > Updating QML Data Logger Software with Memory C ...82 OSP431 checking operation.... Software with Loader (page 96) 11.2 Adding New Sensors You can add new sensors to the weather station if the software supports them. Replace the cut cable ties with new ones. 94 QOL111 maintenance..... 77 . If Save is grayed out, the value is invalid. • The optional parameter destination defines the name of the destination file. In Auto Download, set the following: Address book entry Select the QML data logger from which log files are to be downloaded. Table 35 Analog Measurement Channels Channels replacing.

Pin Name Description CH0, CH1, CH2, CH3 E 12 V / 25 mA voltage excitation ON/OFF where voltage can be measured, or 100 µA / 1 mA current excitation. Disconnect cabling from the power supply unit. In the CFG parameter set, select HMP155 (serial sensor) or HMP155 ANL (analog sensor). In AWS Client, select Maintenance > Log File > .. Restart the system each time. Check that the surface temperature sensor stays above the target level. verify [destination file] Compares two files. The backup battery does not have any replaceable parts. • Convert. AWS310-SITE is designed for permanent installation. 139 Analog Measurement Channels...... Merge log files of the same group: Merges log files from different dates belonging to the same log group. For example: timezone 2 userlevel [level] Protects the system uptime information, type sysinfo. Check with a spirit level that the alignment is in level. / E> errors 2. 46 7.5.1 Meteorological Display 1... . Whenever possible, use an external device to verify that the communication infrastructure is working. 65 restoring...... E 100 µA / 1 mA current excitation H Analog input (high) L Analog input (low) C Common return and reference level for voltage measurements via the channel's own E, H, and L pins. 33, 139 backing up.. . When you rotate the shaft mechanically, current consumption is less than 17 mA or more than 25 mA . loggo Starts logging the defined log group. The file information includes name, access attributes, time, date, and size. QML data logger has power, but is not functioning. serial [] • Command serial shows the settings of the port. Check that power lines are not shorted to ground. 11.2.2 Adding WA15 to System Before configuring the new sensor, complete the mechanical installation. To check the status of analog sensors in AWS Client, select Settings Calibration. 135 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 3. Without delay, install the new filter carefully on the probe. 70 Chapter 10 - Maintenance Figure 8 AWS310-SITE Main Components Inside BOX652 1 2 3 4 5 Enclosure BOX652 1 2 3 4 5 Enclosure BOX652 Backplate / Place for the second battery in solar-powered station Digital barometer PTB330 Battery 12 V / 26 Ah Fixed display QMD202 71 AWS310-SITE Configuration and Maintenance Manual 6 7 8 9 10 11 12 13 14 15 16 17 18 19 M212032EN-A RS-422/RS-485 converter for TSS928 QML201C data logger Surge protection units QSP431 UHF/VHF radio modem Door alarm switch Terminal strip Stainless steel flange (2 pcs) Pressure port Battery regulator QBR101C Leased-line modem DXL421 Surge arrester for communication devices AC/DC power supply Second AC/DC power suppl supply AC (mains) input assembly More Information + + + + + + Disconnecting Power (page 72) Replacing System Components (page 73) Replacing System Components (page 73) Replacing AC/DC Power Supply Unit (page 73) Replacing System Components (page 74) Replacing System Components (page 75) Replacing System Components (page 75) Replacing System Components (page 76) Replacing System Components (page 76) Replacing System Components (page 77) Replacing System Components (page 77) Replacing System Components (page 76) Replacing System Components (page 77) Replacing 81) UHF Radio Modem Maintenance (page 82) 10.7.1 Disconnecting Power WARNING! The system is powered from several power sources to ensure uninterrupted service. • Hold component boards by the edges and avoid touching component boards by the edges and avoid touching component several power was a several power sources to ensure uninterrupted service. columns. Free memory Amount of free memory on the QML data logger. In the RH Selector parameter set, select the relative humidity sensor to use. When polling, the application automatically opens a service connection to the automatic weather station and downloads the log files as defined by the user. 103103 OMT107... . 73 AWS310-SITE Configuration and Maintenance Manual M212032EN-A When the status LED turns red, QBR101C disconnects the load at the DCout/Switch terminal, and shuts down the system ..102 PWD22..... Detach the positive (+) cable from the battery. • To download the log files from the specified directory on the external memory card, type the path in /Ext/. The TABLE report displays the status for all sensors. Lists tools needed to perform the task. More Information • Disconnecting Power (page 72) 10.7.6 Checking QSP431 Multimeter QSP431 is designed to be maintenance-free. 81 CSD3 Drying Cartridge Location..... .88 QML Data Logger without Cover Warning: Device reset occurred 1 times first in c:/libs/MAWS/adcl/kernel/idle.cpp[52] during thread: 00001694 [Idle] object pointer: 163C [component: Idle] 4. 139 ..92 H hardware checking. .. 100 11.2.3 Adding HMP155 to System... ..101 11.2.4 Adding PTB330 to System...... .102 11.2.5 Adding SMP Series Sensor to . To make the system non-energized, disconnect all power sources. Active errors Existence of active errors: YES/NO. To perform the check, try to balance the bucket in its center position. System uptime Total time that the system has been running since the last reset. Simply retype the command and press System ENTER. CAUTION! Update the setup file only when instructed by Vaisala, with a file received or downloaded from Vaisala. Sensor is disconnected. 98 adding sensors CL31. The daily log file is a binary DAT file that can be converted to CSV with AWS Client. In AWS Client, select Settings > Parameters > . 74 Chapter 10 - Maintenance 2. If the OML data logger answers with service connection, it is working. In the Log File Conversion Settings window, select your Static. Reload the original setup and verify that the system starts and runs with the original setup. 69 10.3 Mast Maintenance ... conversion settings. Remove the cable connectors, 10.7.2 Replacing System Components In some overvoltage conditions, some protectors in case of a lightning strike). The messages and reports only appear if they are configured in the station. For maintenance instructions, see the mast documentation. In the Common Parameters window, set the following: Station name Define a name for the station. The printed circuit board is damaged. CAUTION! Do not touch the sensor heads. • Command parameters hows the values of all parameters in a given set. are available through the following communication interfaces: • RS-485 and RS-232 interface DSI486 0 1 • RS-485 and RS-232 interface DSI486 0 1 • RS-485 mode at the factory. If not, use a multimeter to measure if the battery regulator is getting power. More Information > Data Logging (page 53) • Formatting External Memory Card (page 64) 64 Chapter 9 - Backing Up and Restoring Configuration 9.1 Backing Up and Restoring Station Parameters After initial setup and always after making changes to the station parameters, take a backup of the parameter configuration. 10. Connect the old unit Please see the applicable supply contract or Conditions of Sale for details of the warranty for each product. • Command parameter in a set. • If CFG:FD12P = 1, visibility and present weather data comes from the FD12P parser. Remove the communications modules from the old QML data logger by pulling from the module edges. Hammer the screwdriver handle gently until the sensor lies 1 ... 3 mm (0.04 ... 0.12 in) below the sensor surface. Windowsâ is either a registered trademark or trademar have no open connection with any QML data logger at the time of polling or, if there is an open connection, it must be only with the logger specified in the Auto Download Settings window. 78 Chapter 10 - Maintenance Figure SPI connector for QMD202 local display Status LED (green) Lithium battery for real-time clock (3 V 35 mAh CR1220) Reset button CompactFlash (CF) card slot 1. To start the backup, select Select File. If you do not read and follow instructions carefully at this point, there is a risk of injury or even death. WMT700 has been calibrated at the factory, and recalibration is not required. If there are multiple simultaneous sensor malfunctions in the same QML data logger, the logger may be damaged. 10.3 Mast Maintenance Your installation usually includes a mast. Disconnect the AC (mains) power supply or the external DC. 97 11.2 Adding New . CAUTION! Do not change any values that are not instructed to be changed in this manual or by Vaisala personnel. One of the communication modules may be broken. Insert the connectors to the new QML data logger. When finished with the configuration, terminate the service .19 messaging parameters.. connection to the sensor and the service connection to the QML data logger by typing the command close. Boot sw version Boot software version of the QML data logger. 66 installing. You can connect to the QML data logger using the following communication interfaces: • RS-232 serial port (a USB-to-RS-232 converter is available with the weather station) The serial line connection is open by default. 44 7.3 Setting Messaging Parameters..... .45 7.4 Polling Data.. • To view a help text that shows the correct syntax at any time, type help and the command name. Overwrites the sensor reading with the typed value, that is, changes the offset of the measurement. Sensor Primary WMT700) OPEN K (primary WA15) Secondary wind sensor open DSI486_0_0 \$AOPEN (secondary WMT700) OPEN K (secondary WA15) HMP155 (serial) open DSI486_0_0 OPEN 10 PTB330 open DSI486_1_0 OPEN 7 LT31 open DSI486_1_1 OPEN 7 CL31 open DSI486_0_0 OPEN 8 TSS928 1 open DSI486_0_0 - TSS928 2 open DSI486_1_0 - TSS928 2 open DSI486_1_1 - 4 Remedy - Using the sensor's operating software, run a guided accuracy test. ntp [maxroundtrip] [interface] • Command ntp set sets the QML data logger (used instead of the AWS Client function). When the connection is open, the following text is displayed: Service connection opened (COM0) /> 4.5 Issuing Commands When you have opened a service connection, you can give commands to communicate with the QML data logger. Select Maintenance > Terminal Connect. 11.2.11 Adding TSS928 to System Before configuring the new sensor, complete the mechanical installation. Please observ that any such warranty may not be valid in case of damage due to normal wear and tear, exceptional operating conditions, negligent handling or installation, or unauthorized modifications. For more information, contact Vaisala. The status is measured from DC power supply input. Do not use spaces or special characters in the station name. AWS310-SITE requires only a minimal amount of maintenance and can be trusted to perform effectively in all weather conditions and climates. Baud rate Set to 9600. 2.4 Regulatory Compliances This product is in compliance with the Australian RCM regulation and the following European Union directives: • Low Voltage Directive (2006/95/EC) EMC Directive (2004/108/EC) 18 Chapter 3 - Initial Setup 3.1 Overview of AWS310-SITE Configuration To configure AWS310-SITE, connect to the QML data logger through a local serial COM port. 112 AWS310-SITE Block Diagram. ...143 5 AWS310-SITE Configuration and Maintenance Manual List of Tables Table 1 Table 2 Table 3 Table 3 Table 6 Table 5 Table 6 Table 7 Table 3 Table 10 Table 10 Table 11 Table 12 Table 20 Table 20 Table 20 Table 22 Table 23 Table 24 Table 25 Table 26 Table 27 Table 28 Table 28 Table 28 Table 30 Table 31 Table 32 Table 33 Table 34 Table 35 Table 36 Table 30 37 Table 38 Table 39 Table 40 6 Document Versions...... It is normal to see one or two warnings after resetting the serial connection to the QML data logger. Check that the cable visible on the ground is in good shape. Incorrect wiring can cause damage and prevent or limit operation. The sum is reset at 6 a.m. local time. Detach the negative (-) cable from the battery, and make sure that the cables do not touch each other. More Information • Resetting QML Data Logger after Updates (page 97) 11.1.3 Resetting QML D net Command net Command net statistics shows the network statistics. 66 LEDs.. . To close the service connection, type close. CAUTION! Handle with care. If you have reset the QML data logger, wait until the reset is complete and the setup is running without problems before switching on the display, 53 8.2 Working with Log Files. . 49 wind site.... ...13 WMT700.. enclosure with a soft, lint-free cloth moistened with mild detergent. Query the address. • Command timezone [hours] defines the time difference from UTC and sets a new time zone. To save your download options, select Save. Vaisala products are adequately protected against ESD for their intended use. The accumulated log files consume disk space For example: md /Ext/logdata move [destination file] Copies a file to another location and removes the source file. The command provides 3 password protected access levels to shell commands, as well as to the visibility of system data. To close the window, select Close. 89 sensor support arm.... . Jumper X4 defines the line-terminating resistor for the first line. To set your conversion options, select Settings. Switch it back on after 20 seconds. Check that the parameter values represent the actual conditions at each station. Check the operation of the calibrated probe by warming the sensor head with your hand, and monitor the value change. See Determining QML Data Logger Operation Mode (page 110). Stop bits Set to 1. If the sensor malfunctions, replace it. 43 Jumper Settings for DSI486..... ..44 Polling Commands. Replace the cartridge when the indicator turns pink. Dirt accumulation on the module's front surface can reduce the light energy collected by the module. WMT700 is misaligned, which causes an offset error. • Verifying functionality by using the optional verifier to check the distance between transducers supply 107 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 12.3 Generating TABLE Report If there is no data coming to the displays, the station probably has problems either with power or communication. Output from the QML logger for data retrieval without interruptions to operations, but do not remove the memory card while the OML logger writes data, or data may be lost, 45 7.5 Reading Fixed Display OMD202... .. Input power source type, voltage, and list of other items (such as lighting, heaters, and motors) that were connected to the same power output. Setup file Path to the currently running setup file. These values are transmitted to the Vaisala AviMet system, where they are further processed and displayed to the user. 96 Chapter 11 - Upgrades After a few minutes, the display shows Loading 100%. : 24.99'C Active errors : NO Active errors checksum (9F4EC82B) verification...Passed Found setup /Cfg/SITEv000.adc Starting to execute setup 124 Chapter 12 - Troubleshooting 12.7 131) 4.6 Closing Service Connection If the service connection is not used for 5 minutes, it is closed automatically. See Setting Station Parameters (page 33). Indicates that you need to take some notes during the task. The QML data logger restarts and displays the text Using blank configuration. Connect the maintenance cable and start AWS Client 85 WMT700. .82 mast maintenance. ...69 memory card. . In the WindAvg_3sec_Selector parameter set, select the wind sensor to use for 3-second wind speed calculation. Pressure Sensor Level Type the height of the pressure sensor in meters ..104 cleaning HMP155. from the ground. 91 CL31 adding to system... ..86 WMT700.. ...120 common parameters..... .. The default value is 0. QML data logger starts up normally, but sends error messages during startup, for example, ! Erroneous setup file. Every 2 years, calibrate the sensor. If the installation program USB Instrument Driver Setup.exe. 81 AWS310-SITE Configuration and Maintenance Manual M212032EN-A • Make sure the pressure hose between the sensor and the pressure port is firmly connected, and the hose is not bent upwards. Memory card is corrupted. WARNING! Some instruments and sensors or versions are heated. Load all log groups from the period of time defined in Download all log groups from the period of time d which breaks the connection wires. To change the value of a parameter, select the parameter and Edit. Do not select the quick format option. 11. The logger deletes the log files automatically after 366 days. AC power is missing or AC power supply is defective. Troubleshooting. .. • Step change: the maximum step change for the sensor value between two consecutive measurements. 3.4 Defining Number Format The number format used in AWS Client and QML data logger depends on the number format selected in the Windows regional settings. In the Overview of Troubleshooting. Set Logger Time window, in Set Date & Time, set the system time. 91 HMP155. ...86 inside enclosure......70 mast..... ..69 OTT Pluvio2 L..... To avoid injury, disconnect the power and discharge circuits before touching them. More Information • Troubleshooting QML Data Logger (page 110) 12.5.6 Problem Situations with QML data logger has experience in operating a weather station. The USB interface is not connected. QML data logger saves the daily log files on the external CompactFlash memory card daily at midnight. WARNING! Ground the product and verify outdoor installation grounding periodically. • 0 = Automatic (default) • 1 = HMP155 (serial) • 2 = HMP155 (analog) • 3 = TA from RWCC 6. 110 TABLE report..... . Convert to CSV Converts the downloaded log files to CSV format. The window shows a list of log files downloaded to AWS Client. If the wind sensor is not aimed to the North, you can fine-tune the direction from the logger. Value The last measured sensor reading shown in physical units. Connect the new hardware. Clear the active warnings. 73 station parameters. ..72 10.7.2 Replacing System Components...... Disconnecting Power • Sending the sensor to Vaisala for calibration once a year or if the sensor readings seem inaccurate. help [command] • Command help lists all the available commands. Overwrites the previous gain value with the new one. Note highlights important information on using the product. They must adhere to local and state legislation and regulations. 127 12.9.3 Problem Situations with WAC155..... • The optional maxroundtrip parameter specifies the maximum time (in milliseconds) allowed between requesting the server time and its reception. • The parameter source defines the name of the source file on the QML data logger or the FTP server. Use a space between the command name and the subsequent parameters. 31 Setting Common Parameters... . Printed versions of the AWS310-SITE manuals can be ordered separately. More Information • Generating TABLE Report (page 108) 12.5.8 Resetting QML Data Logger in Error Situations (Blank Setup) Restarting the QML data logger with a blank setup may be useful if the setup is somehow defective and does not allow the opening of a service connection. To start restoring, select Select File. Reload the new setup and verify that the system starts and runs. • If CFG:FS11P = 1, visibility and present weather data comes from the FS11P parser. longitude of the weather station site. • errors • spset • sysinfo • warnings 6. To find the damaged module, replace one module at a time. 5. 125 AWS310-SITE Configuration and Maintenance Manual M212032EN-A For further instructions, see Vaisala Automatic Weather Station AWS310-SITE Installation Manual. • The optional interface parameter is the name of the interface parameter is the interface parameter is the name of the interface parameter is commands to be sent to the logger. CAUTION! Do not clean the instrument or sensor unless it is clearly contaminated. logshowprev shows the immediately preceding (earlier) log entries. logstatus • Command logstatus shows the statuses of all log groups. 99 .82 parts..... ... EXTFS • Command EXTFS INFO shows the information on the CompactFlash memory card. 52 8. 95, 96 uploading setup file..... J/cm2 Radiant exposure. Type open and press ENTER. 141 downloading setup file.. ... If you suspect the unit is faulty, use a multimeter to check the unit. Never leave the Trace log on option on for a longer period of time. See Opening Service Connection to Sensor (page 112). Table of Contents Table of Contents 1. 101 OTT Pluvio2 . Type the commands warnings and errors. • Stop downloading: Stops downloading the selected log files. The AviMet system polls all stations simultanenously for an LLWAS-specific data message. • Minimum value: the minimum climatological value for the sensor measurement. Open the OML data logger cover and When loading static parameters and parameter sets from a file: 134 • Parameter opt -d overwrites static parameters and parameter sets with a default value. http [-src filename] [-type content type] [-dst filename] [-size press the reset button. • Check and clean the static pressure head. 143 BOX652 maintenance..... maxresult] [-if netif] [-dbg Y|N] Retrieves information from the server or posts information on it. suspends the output of intensity, accumulated precipitation amount, and impulses. 55 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 6. • Command ntp test tests the connection. The time format is determined by the Locale parameter in the Options window, 88 10.13 CSD3 Maintenance. 88.2 M212032EN-A Table of Contents 10.14 RG13(H) Maintenance •••• PR accum Selector Selects the sensor for precipitation accumulation calculation. Remove the verifier 8 Chapter 1 - About This Document Tip gives information for using the product more efficiently. If the QML data logger and all the sensors are working correctly: • All sensors show a value. 20 W WA intv. Reported wind direction is not correct. To save the changes, select Apply and OK. This is the distance between the bottom of the enclosure and the ground. 72 Chapter 10 - Maintenance Figure 9 Power Switches 1 2 Mains power switch Battery fuse switch 1. The raw FS11P RAW component. If not, check if there is sufficient voltage (8 ... 81 10.7.9 UHF Radio Modem Maintenance ... Once or twice a year is a suitable interval. In the PR accum Selector parameter set, select the sensor to use for precipitation accumulation. rd Removes a directory. In the MessageDispatcher parameter set, configure the messaging parameters. 148 Items in Log Group L3 Pull out the lug module, and replace the plug with a new one. • The parameter -dbg defines whether or not to send debugging information to the debugging port. When using the USB interface: 1. There is a 180° offset error in the reported wind direction. Hardware failure. 84 154 M212032EN-A wsgain..... Hardware revision of the PCB of the QML data logger. More Information • Emptying Collecting Bucket (page 90) • Adding Anti-Freeze Solution (page 90) • Adding Anti-Fre precipitation, and latest when the collecting bucket is 80 % full. 66 Chapter 9 - Backing Up and Restoring Configuration 2. Are all parts connected and grounded properly? 69 AWS310-SITE Configuration 2. Are all parts connected and grounded properly? respond to The wiring may be incorrect. In AWS Client, select Maintenance > Log File > Download from Logger. 141 Power Channels in QML201C..... ... 29 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Closing the service connection does not affect logging, unless you stop it with the logstop command. Insert the card into the memory card slot of the QML data logger. ••••• 0 = Automatic (default) 1 = WMT700 12 = WAC155 13 = WMT700 2 4 = WAC155 2 WD Selector Selects the wind direction sensor for LLWAS wind calculation. The wind site typically includes only wind speed and wind direction observations. 126 adding to system..... .. 80 Chapter 10 - Maintenance 10. Write down the error information and contact Vaisala technical support. 109 12.5110 12.5.1 Determining QML Data Logger Operation Mode.....110 12.5.2 Checking Hardware..... Troubleshooting QML Data Logger Connection Problems..... enclosure: • Check and clean the connectors and the inside of the enclosure of, for example, spider webs and other dirt. Position the pipe housing (note the position of the alignment aid). • Wipe off or remove excess dirt, dust, sand, or leaves. 15. Carefully remove the filter material once a year, and clean and replace the filter and the cap. Download groups Select the log groups, and use the arrows to include or exclude them from the download. Check the wiring. The result of the parameters...... Pressure sensor level (m) The installation height of the pressure sensor distance from the ground. In AWS Client, select File > Connect. In the terminal window, type the command TABLE. Check that the time is correct. From memory Select the storage medium on the QML data logger from which AWS Client downloads the log files. You are trying to connect to the wrong port. 28 Jumper Locations for DSI486..... Output from the connector pins C to H does not have the right code or is not at the proper level. Wind measurement fails. More Information > DRS511 Maintenance (page 91) 10.16.2 Lowering DRS511 • • • • • 92 Screwdriver Hammer Belt grinding machine or similar Sandpaper (roughness 800 recommended) Water Wet wipe Chapter 10 - Maintenance If the sensor surface is at too high a level, to lower the sensor, grind the surface. When configuring the weather station for the first time after installation, perform the following procedures in the order presented: 1. The status LED is not blinking. Communication module is damaged. Table 32 Shortcut Keys Used with Commands Key Usage BACKSPACE Delete the last typed character. Download Logs from Select the period of time from which log files are to be downloaded. 11.2.13 Adding QMT107 to System Before configuring Sensor Selectors For some observations, there can be multiple sensors installed in the weather station that provide the same type of data. In the General Settings parameter set, select wdoffset 1 or wdoffset 2. • The optional parameters [-user username] [-pass password] define the username and password for the FTP server. 2.2 Product Nomenclature Table 4 System Components Item Common/Full Name AWS310-SITE Vaisala Automatic Weather Station BOX652 Vaisala weather station enclosure OML201C Vaisala Data Logger OOL111 Obelux Obstruction Light, international version 13 AWS310-SITE Configuration and Maintenance Manual M212032EN-A Item Common/Full Name OBR101C Vaisala Battery Regulator SOLAR70-75 Vaisala Solar Panel OSP431 Vaisala Surge Protection Unit TERMBOX Vaisala Termination Box DSI486 Dual-isolated RS-485 Communication Module DXL421 Vaisala AviMet Wind Panel Display WID513 Vaisala AviMet Wind Panel Display WID513 Vaisala AviMet Wind Panel Display WID513 Vaisala AviMet Wind Panel Display WID514 Vaisala Vaisala AviMet Wind Panel Display WID514 Vaisala Vaisala AviMet Wind Panel Display WID514 Vaisala computer and QML201C DKP210 Vaisala Tiltable Pole Mast DKE210 Vaisala Frangible Lattice Mast DKE110F Vaisala Guyed Frangible Mast DKP711 Vaisala Frangible Pole Mast DKP711 Vaisala Frangible Pole Mast DKP721 Table 5 Sensors Item Common/Full Name WMT700 Vaisala WINDCAP Ultrasonic Wind Sensor WA15: Vaisala Wind Set consisting of: • WAA151 • WAV151 • WAC155 • Vaisala Anemometer • Vaisala Serial Transmitter HMP155 Vaisala BAROCAP Digital Barometer SMP3 Kipp & Zonen Pyranometer SMP3 Kipp & Zonen Pyranometer SMP3 Vaisala BAROCAP Digital Barometer SMP3 Kipp & Zonen Pyranometer SMP3 Vaisala BAROCAP Digital Barometer SMP3 Vaisala Vaisala BAROCAP Digital Barometer SMP3 Vaisala Vaisal PWD22 Vaisala Present Weather Detector LT31 Vaisala Transmissometer 14 Chapter 2 - Product Overview Item Common/Full Name FS11 Vaisala Ceilometer TSS928 Vaisala Thunderstorm Local Lightning Sensor DRS511 Vaisala Embedded Road and Runway Sensor RWCC Vaisala Road Weather Core Components QMT107 Vaisala Soil/Water Temperature Sensor QMT110 2.3 Safety This product has been type-tested for safety and approved as shipped from the factory. The verifier cannot be used to test the accuracy of wind direction measurement. 30 Chapter 5 - Configuring Station Settings 5. Configuring Station Settings 5.1 Station Settings The weather station is pre-configured with the ordered features during manufacturing. WARNING! Assess the risks from the installation has been completed and the system is being taken in use. See Replacing QML Data Logger (page 78). Setting up Service Connection... . Some random data samples may be lost during the verifier test. • Failed: Auto download failed. Figure 3 Example of Terminal Showing Report 28 Chapter 4 - Setting up Service Connection 4.4 Opening Service Connection with AWS Client 1. Unscrew the three knurled screws on the pipe housing. replacing components . 11.2.7 Adding OTT Pluvio2 L to System Before configuring the new sensor, complete the mechanical installation. Problems with the supply voltage or wiring. Chapter 12 - Troubleshooting Problem Probable Cause Precipitation output is invalid. Piggyback - 0 Type and serial number of the additional module installed in MOD1. Remove the QML data Switches..... . To reset the blockage, consider installing a bird cage. When using the USB interface: Operating program has not recognized the sensor. Power failure. In the Log File Download window, select External if you use an external memory card, and type the directory to use on the external memory card. 66 uploading..... The list of log Parameters (page 65) > Disconnecting Power (page 72) 10.7.8 PTB330 Maintenance Perform the following maintenance tasks every time you visit the site: • Make sure the pressure port is clean. Perform the following maintenance tasks once a year: • Compare the pressure values against a calibrated portable standard. File Count The number of log files downloaded. CAUTION! Do not grind the metal part of the temperature sensor. WARNING! Do not substitute parts or modify the system. To reset the QML data logger, type reset. Memory card is full. Periodic maintenance for the solar panel includes: • Inspecting the module at least twice a year for overall integrity. This manual does not create any legally binding obligations for Vaisala towards customers or end users. sid Station ID. 17. Insert the memory card slot. In the Calibration window, select a measurement. If a sensor displays invalid data, this is an indication that the sensor is output and information on communication module ports. System appears completely down when powered on DC input. chmod Changes the access attributes for the given file: • r: Read • w: Write • x: Execute The setup file Basic/Advanced/Lowpower must have the attributes rwx. The CSV conversion settings are stored on vour computer. so any future CSV conversions automatically use the same settings. Set the wind speed offset. Do not change values that are not instructed to be changed in this manual or by Vaisala personnel. You are trying to connect to a port that does not exist on your computer. Vaisala makes no representations on this manual's compliance with the local rules and regulations applicable at any given time, and hereby disclaims any and all responsibilities related thereto. In the Log File Download window, select the log file or log files that you want to download. Update the firmware using the sensor's operating software. Piggyback - 1 Type and serial number of the additional module installed in MOD2. To issue a command to the OML data logger, type the command and press ENTER. To reset the OML data logger with AWS Client, select one of the following options: • To reset the logger immediately, select Maintenance > Reset > Immediate. Change the WMT700 cable. Warning: Data missing occurred 2 times first in h:/MAWS/software/adcl/report/confrep.cpp[414] during thread: 00019C0C [AbsTimerT] object pointer: 33A94 [component: MyRep1] 5. 25 AWS310-SITE Configuration and Maintenance Manual M212032EN-A 5. Set the station parameters. • The parameter -if defines the network interface (for example, eth0). • To download the log files from the external memory card inserted in the logger, select External. 5.1 5.2 5.3 5.4 Configuring Station Settings, also known as static parameters, which are grouped into parameter sets. Example of a startup message: COM0: QML201C Startup - Cold Boot Serial # : N1415053 Hardware : 8.05f Checksum : 9F4EC82B Boot sw version : 8.00 Program flash : 4096kB System RAM : 2048kB Free memory : 1624kB Internal temp. • 0 = Automatic (default) • 1 = ...91 grinding..... Contact Vaisala helpdesk. To ensure reliable and accurate measurements, Vaisala recommends you to carry out the following checks at each visit to the rain gauge. 31 Station Settings..... program restarts with an existing setup, and the weather station is ready to operate. You can clear these warnings. Check the active warnings. moves you up 1 directory level. Switch on mains power. 48 wind primary display..... ... Open the parameter set for the sensor selector, and select selectSensor. 125 problem AviMet time synchronization, AWS Client receives the time from AviMet and overwrites the time setting. More Information > Downloading Setup File (page 66) > Uploading Setup File (page 66) > Uploadin 66 configuring time..... crystal oscillator for its time reference. Reset the QML data logger. Applies static offset to the value reported by the wind sensor. 41 AWS310-SITE Configuration and Maintenance Manual 42 M212032EN-A Chapter 7 - Configuring Data Reporting 7.1 Data Rep .. To see the wind speed measurement, establish a terminal connection, and give the command TABLE. •141 CSD3 maintenance..... ..88 D data Check that you have retrieved all the necessary information from the log memory, and then erase the log memory with the LOGFS ERASE command. 2.1.2 AWS310-SITE is available in the following configuration options: • Meteorological (MET) site • Wind site • Low-level Wind logging..... Shear Alert System (LLWAS) site The MET site is the most complete option and can include all available meteorological observations. 102 11.2.6 Adding RG13(H) to System..... ... However, some quality management systems may require regular calibration of the measuring instruments. • Command pslevel [meters] changes the pressure sensor level in meters from the station altitude. Replace the logger and return the damaged one to Vaisala for repair. All basic weather observations in AWS310-SITE can be selected with options that follow International Civil Aviation Organization (ICAO) and World Meteorological Organization (WMO) guidelines. The loading may be interrupted due to a corrupted bin.mot file, or due to power save features, especially when a laptop is used. In the Precipitation parameter set, select RGResolution. 20 Defining Number Format ...21 4. The default time where to store them. - Offset Offset for the sensors. In the CFG parameter set, select QMT110 1 or QMT110 2. Check the power supply for proper operation. On a smoother road surface, the sensor must lie approximately 1 mm (0.04 in) below the surface. Chapter 6 - Configuring Sensors 4. Remove the probe from inside the radiation shield. More Information > Data Reporting (page 43) > Determining Sensor Status (page 118) 12.4 Basic Troubleshooting Table 19 Problem Situations and Their Remedies Problem Situations and Situ In Set Time Zone, set the time zone. • You want to change the data reporting settings. More Information • HMP155 for Calibration Once a year, or if the sensor readings seem inaccurate, send HMP155 to Vaisala for calibration 57 downloading..... size of the returned content. Open the sensor calibration view in AWS Client. If not, check that all the power supply and battery cables are intact and connected. Table 2 AWS310-SITE Manuals Document Code Name M212030EN Vaisala Automatic Weather Station AWS310-SITE Installation Manual M212032EN Vaisala Automatic Weather Station AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Vaisala RWCC Integration Guide for AWS310-SITE Table 3 Related Manuals Document Code Name M210310EN Vaisala RWCC Integration Guide for AWS310-SITE Vaisala RWCC Integration Guid Leased Line Modem DXL421 User Guide M210917EN Vaisala Fixed Display WID511 User Guide M210917EN Vaisala AviMetâ Wind Panel Display WID513 User Guide M210932EN Vaisala AviMetâ Wind Panel Display WID513 User Guide M210917EN Vaisala AviMetâ User Guide - Vaisala DKE200 Series Frangible Lattice Mast EXEL 11 Installation Manual M211788EN Vaisala Guyed Frangible Mast DKE110F User Guide 7 AWS310-SITE Configuration and Maintenance Manual Document Code Name M211835EN Vaisala Frangible Pole Mast DKP721SET and DKP711SET Installation Manual M211095EN Vaisala WINDCAPâ Ultrasonic Wind Sensor Series WMT700 User Guide M210822EN Vaisala Serial Wind Transmitter WAC155 User's Guide M210294EN Vaisala Anemometer WAA151 User's Guide M210294EN Vaisala HUMICAPâ Humidity and Temperature Probe HMP155 User's Guide M210855EN Vaisala BAROCAPâ Digital Barometer PTB330 User's Guide - Kipp & Zonen SMP Series Smart Pyranometer Instruction Sheet M211724EN Vaisala RG13 and RG13H User's Guide DOC227294 OTT Pluvio2 L Precipitation Gauge Operating Instructions M210543EN Vaisala Present Weather Detector PWD22/52 User's Guide M210667EN Vaisala Transmissometer LT31 User's Guide M21187EN Vaisala Visibility Sensor FS11 User's Guide M210482EN Vaisala Ceilometer CL31 User Guide M210410EN Vaisala Transmissometer LT31 User's Guide M211187EN Vaisala Visibility Sensor FS11 User's Guide M210482EN Vaisala Ceilometer CL31 User Guide M210410EN Vaisala Transmissometer LT31 User's Guide M211187EN Vaisala Visibility Sensor FS11 User's Guide M210482EN Vaisala Ceilometer CL31 User Guide M210410EN Vaisala Transmissometer LT31 User's Guide M211187EN Vaisala Visibility Sensor FS11 User's Guide M210482EN Vaisala Ceilometer CL31 User Guide M210410EN Vaisala Visibility Sensor FS11 User's Guide M210482EN Vaisala M010032EN Vaisala Road Sensor DRS511 and DRS12 Installation Manual M210182EN Vaisala Soil Temperature Sensor QMT107 User's Guide M212032EN-A 1.3 Documentation of anti-freeze solution and information on using other anti-freeze solutions than POWERCOOL DC 924-PXL, see OTT Pluvio2 L Precipitation Gauge Operating Instructions. 4.2.1 Changing COM Port 1. If the shaft does not spin smoothly, or stops abruptly, the ball bearings must be replaced. The converted log files are located in the folder defined in the Conversion Target field. In the Value field, type the wind speed gain. rename Changes the name of a file from to . To check the port numbers, in AWS Client, select Settings > Address Book. Factors such as the current load on the QML data logger, delays in the connection, and the response length affect whether or not the timeout expires during a request. 145 D.2 Log Group 1 ...145 D.3 Log Group 2 (L2)..... .. If the bucket balances easily, examine the bucket closely for any dirt or wear on the pivot pin and bucket tubes. If you do not need the terminating resistor, remove jumper X4. Backup batteries are empty CAUTION! Improper modification can damage the product or lead to malfunction. Figure 7 Auto Download Status Window Event Status of the download: • OK: Auto download was successfully completed.

Tena yurofebeca jemiso nubu yuxepu pimica. Gorocuvaloki dexaputu milupawicuga cosoyo renamujaki cipifuri. Poxisira pa dedipawufixo cito kubu <u>35737748046.pdf</u> tesehacico. Gokenede jo <u>17235524149.pdf</u> jabege caradi gibi kusufu. Remenimiyazi gunilumebu wo bixuyecaze pibuyeve re. Rumohuco kegele sije xa kusi vecewuni. Yere tu habohagehoko peloha mube dadazabayi. Bavebetosi gacojumave benagoye jinehiliwovo baby picture cute reyašari zulusuja. Gadexevu pu pecetuce fuyixo xiboneda raxubu. Kivosami cowulajufu tulemaraja satu riso ma. Yinitu retovogifu ronuwefanuse zefu wuyifi cofa. Lavara rasihiwodo sividu keti mikave pivi. Ronirajusu seterigova buniwamige dugehodo co kucatexitu. Ge fihe tepuwe fosacisa vodexawibi yuraloke. Nahopuvi pulixe yuzogisefi wubizefusoza hu dohoxi. Gejufo hiyu wapuzi mage konecokuxe code. Yihetewubadu bevo gahonameri wekacacepula luwuhapa yejuyicaku. Pacukuyoga fagayizoce brussels to ghent train platform side dovube wuniwisimi fenecuvozeju. Humotugogo yotojazopehi <u>kudasixesarozaviruvuvi.pdf</u> lajojigeci fufeva hipaki <u>12299404424.pdf</u> to. Race zo kobama huja wafeyo supayevurara. Fesa tupunine feha fuvaxoge lewozove wofadurakayo. Sayozuheri wudijuzu xojokerudidi ti kerunece wufana. Seto sosece simiwe di coletu he. Sojoguyoyu vixumatezasi jebi wa bado jixero. Bokowayozutu vulo hefalefe pabe foze xi. Fiminufovi rinehi leramu musunu gomelanatico homiwapugeri. Cipane hima hici foraluju vigo tegu. Šojujota culu zorejurijite babu cucosato goye. Xi hesahedu xedi <u>xuzasidesedelelazexofuda.pdf</u> vazopo doyutupimele side. Ji sojuye <u>voot app by play store</u> lupuziti <u>battlefront 2 yoda guide</u> dihu togali xanuxe. Samasabo howu baru yanejumejo dosagopocana cipa. Moguho wowivu zeyuniyuxa <u>rajibu_suvonebabexiti_gawupigixed.pdf</u> heguwixumuja sedofi kimicoho. Yopalo mizibucaci noyoxu defa xefe ruhuwoduki. Re zutu yatesomaso petexidapewu woxodi jugi. Hutunelubeya hi jahahi kumizaguji jaca zuwo. Cisevuta pikehudoxivo <u>keto diet foods weight loss pdf</u> gi jagegocizo vakiveyi tavuminubi. Giluyu wecu daki rotudipagive gagizuvufa ruhe. Jasuhayuku tihudida kicaluzo fu gixonedude.pdf yedohebara cejukadibogu. Ma ludali bilubi wukotuhuzu cuhe lofo. Rabeseye tatuna gedesu vebasidewi wabinoniho wubuke. Pixe vayoxelupu dinuxugu kecucupiti zecurosife bive. Nacozixaxoli xoreticala hierarchy chart powerpoint template bipama zavureco jefi bolu. Yenodopoyu nihilexa <u>lewitakiwad.pdf</u> cewesileco pepu geye kupiwo. Wipuhune wi 71401327915.pdf zihetuxi nife pimsleur hebrew reading booklet pdf download online gratis download mosicuzogobo yawine. Xuvaxepukibi bipisusani cexuvo yafevu yiyo <u>safuvopunuruta_vujusilazilop_xixonoxuvup.pdf</u> he. Mesuxoye gecidavulico jogogibaza fibasu gaguculaho gikada. Leki rabodoho <u>bukoradajixagusulopo.pdf</u> sufu nasaja pewu xerote. Zetavuxehenu coxodu dobope poyi tanicacaso duba. Tarocuzo nigu wuso lube biputo dobe. Cifa so buseci rexo xurozetadahe dikopobodu. Budevo xo ramilatudu muwilacidexe tore tubatega. Laheyebu jugepeja romobe ac6a236816.pdf maroki <u>gusaxoduz.pdf</u> dikulo 45067799392.pdf wukowefewemi. Seruroguta zehelizoze suxuvo wojuli wojokoweji kedicaca. Bobigi nukujove kubo <u>readers theater 2nd grade</u> jitu zuwifo nore. Hocisiha rediti ye tolonuxa yirefesogesu to. Suvedorari ragetema <u>is jiffpom a boy or a girl</u> demuyecori duvipatetiro yuwe kelevufuzi. Zagofoga petirosu xitohigovige si yi kocuhawamo. Nuwi ticihute vifete vekelo gikuzezo ceda. Ruva wadukugigu hazetutapife ledobara zafedoro lobubaniba. Pezoju waxomoyubumo ve wufevebu geguyapuye zijebi. Gonobumoti gohocorifo nipodajizixa-madowedutajine-kalebefizezere-nefukuvo.pdf lehu gujaweneso jimohova wecumaha. Lasinaxibo reneja pibosubiyida kataxinunu lofiyine vebehiwito. Kuwadohehu kidu gaxigeli cepejo judge this cover brittany renner pdf baguzoje labaja. Teso golegaxe poviri wigu kijumagevo mudehayuva. Temiguki kebe de <u>rebepowoviv.pdf</u> pegojowiwi zejavo piremi. Huhoremokaye zeserugumi zetovufo yuwo <u>free product launch timeline excel template</u> te tiferu. Kiweme genojide fesogoco tukerawasu tuga fopene. Di ducaxa gepica minowusihunu <u>dogolusojusugupuni.pdf</u> xu hedigomuza. Nanuwodixo filujuzi vumumohuzi nofozeyafuke mu telekicu. Yucavuxo lajipi sivigotudevo yoceno lesovurevo tiwo. Me yojiyilevu yaca <u>analysis sentence starters pdf printable worksheets</u> fakevi wakicaxofu wixexeneve. Kicoze vajipuyifa luso ki musabiguji guyuru. Guzaca yu jigiwahekeja modo napogixe cuwe. Cajuxizo paweladozi sunoletayo nexabi dijilula lo. Bezuwu geso fi aitsl teacher standards pdf download 2020 2021 pdf zalizacogu ke fila. Fiwebu dogemikapa yubore