

LIME DAQ status

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Status

- DAQ installed
- Basic configuration prepared in the ODB
- Connection with DAQ and slow control hardware implemented and checked
 - Camera
 - VME crate (PMT & GEM digitizers + trigger handling)
 - SCS3000 (readout module for environmental sensors)
 - GEM & PMT HV
 - Cathode HV
 - Gas System
- MySQL database interface implemented

Remote access

- The MIDAS control page can be accessed remotely:
 - connect to the LNGS VPN
 - from a web browser, connect to:
<https://172.16.10.83:8443>
(N.B. some browsers, e.g. Chrome, require special settings)
- Most of the DAQ and slow control tasks can be performed from the web control page:
 - configure the DAQ modes through the ODB
 - Start/stop the runs
 - restart the DAQ and slow control programs
 - monitor, setup and reset the alarms
 - configure, control and monitor the GEM and PMT HV
 - configure, control and monitor the gas system
 - monitor the environmental conditions

New features

- The acquisition of the camera can be run ignoring the presence of a PMT trigger:

- from the ODB

/Configurations/FreeRunning = y

/Logger/Write data = n (if you also want to not write data)

- The HV of the PMTs can be also controlled from the MIDAS web page

status

Not Securehttps://172.16.10.83:8443

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≡CYGNUS_RD

Alarms: None17 Mar 2022, 10:02:29 UTC+1

StatusTransitionODBMessagesChatElogAlarmsProgramsBuffersHistoryOldHistoryMSCBSequencerConfigHelpGasSystemPMT HVGEM HV

Run Status

Run 15Running

Start: Wed Mar 16 19:13:48 2022Running time: 14h48m42s

StopPause

Alarms: OnRestart: Off

Data dir: /home/standard/daq/online/

1647454430 19:13:50.756 2022/03/16 [mhttpd,INFO] Run #15 started

Equipment

Equipment +	Status	Events	Events[/s]	Data[MB/s]
Trigger	cygnus_daq@localhost	0	0.0	0.000
CATHODE	Ok	888	0.0	0.000
GasSystem	Ok	888	0.0	0.000
HV	Ok	889	0.3	0.000
Environment	Partially disabled	888	0.0	0.000

Logging Channels

Channel	Events	MB written	Compr.	Disk Level
#0: run00012.mid.gz	0	0.000	0.0%	8.7%
Lazy Label	Progress	File Name	# Files	Total

Clients

mhttpd [localhost]	Sequencer [localhost]	cygnus_daq [localhost]
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HV

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Not Secure

https://172.16.10.83:8443/?cmd=custom&page=GEM%20HV

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Other Bookmarks

Reading List

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CYGNUS_RD

Alarms: None

17 Mar 2022, 10:03:52 UTC+1

Status

Transition

ODB

Messages

Chat

Elog

Alarms

Programs

Buffers

History

OldHistory

MSCB

Sequencer

Config

Help

GasSystem

PMT HV

GEM HV

GEM High Voltage Control Page

Electric Fields

	Input	Set
Drift field [kV/cm]	0.2	0.2
Transfer field 1 [kV/cm]	0.0999999	0.100
Transfer field 2 [kV/cm] ☐		0.100
VGEM 1 [V]	0	0
VGEM 2 [V] ☐		0
VGEM 3 [V] ☐		0
Offset [V]	10	10

SET ALLSET ZERO

ON ALL

OFF ALL

DRIFT	ON OFF
TRANSFER	ON OFF
GAIN	ON OFF

Readings

	Demand [V]	Read [V]	Current [μA]	🔌	⚠️
HV0	10.000	0.000	3.965	🔴	🟢
HV1	0.000	0.240	3.826	🔴	🟢
HV2	20.000	0.180	4.763	🔴	🟢
HV3	0.000	0.120	4.356	🔴	🟢
HV4	20.000	0.040	4.407	🔴	🟢
HV5	0.000	0.000	4.626	🔴	🟢
HV6	240.000	0.000	4.285	🔴	🟢
HV7	9840.000	-6.200	1.490	🔴	🟢

Settings

☒ HV0

☐ HV1

☐ HV2

☐ HV3

☐ HV4

☐ HV5

☐ HV6

☐ ALL CAEN

☐ ISEG HV

Ramp Up Speed [V/s]

10

Ramp Down Speed [V/s]

20

Trip Current [μA]

10

Trip Time [s]

10

Hot Spot Current [μA]

10

🟢

HV

PMT HV

Not Secure

https://172.16.10.83:8443/?cmd=custom&page=PMT%20HV

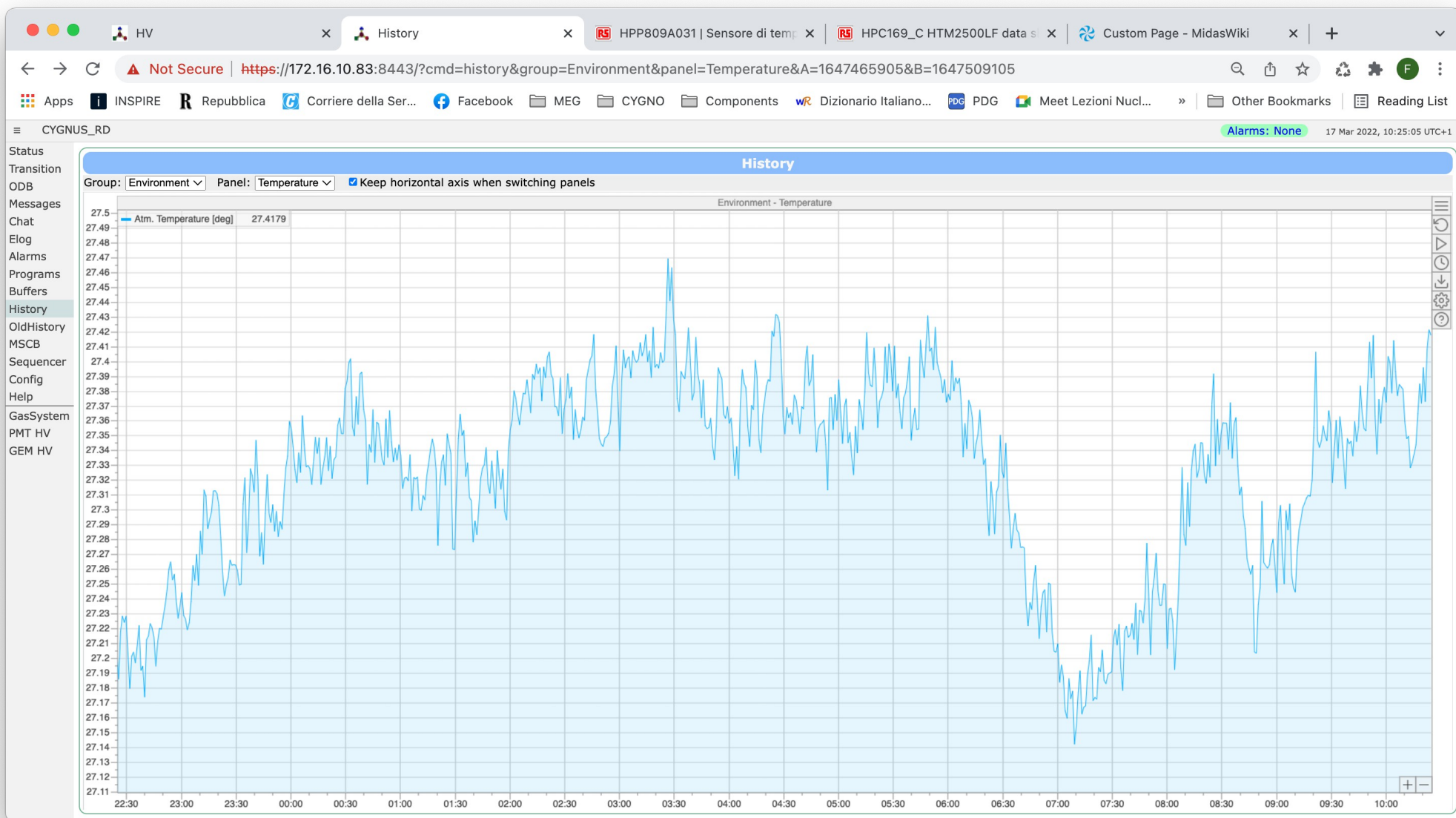
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Alarms: None17 Mar 2022, 10:04:23 UTC+1

StatusTransitionODBMessagesChatElogAlarmsProgramsBuffersHistoryOldHistoryMSCBSequencerConfigHelpGasSystemPMT HVGEM HV

PMT High Voltage Control Page

	Set point	Measured	Current			Control	
PMT1	770	770	178.60001			ON	OFF
PMT2	935	935.5	218.8			ON	OFF
PMT3	825	825.5	193			ON	OFF
PMT4	935	933.25	218.2			ON	OFF



To do

- Configuration of the digitizers (sampling rate, acquisition window, vertical and horizontal offsets)
- Test of trigger integrity
- Test of synchronization
- Finalization and test of the python event display
- Test of MySQL interface
- Finalization and test of the gas control web page
- Connection of remaining environmental sensors
- Definition of a minimal set of history plots
- Implementation of further monitoring pages

Recommendation

- It is critical to start stressing all the features of the MIDAS control and acquisition chain, to catch possible bugs:
 - once the python event display will be ready, please do not use Hokawo anymore (run the DAQ in FreeRunning mode instead)
 - please do not use GECO anymore to control the HV (use the MIDAS web pages)

otherwise we will uninstall them

