

EPICS naming conventions for MicroBooNE

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Glenn Horton-Smith, 2013/02/20.

PV naming convention

(PV stands for Process Variable)

`(detector)_(subsys)_(rack)_(unit)_(channel)/(var)`

where

detector = “uBooNE” for MicroBooNE, “TEST” for software testing, others to be defined as needed;

subsys = a subsystem name (see list below);

rack = the rack where device is located, or a virtual location if no rack is applicable (see list below);

unit = a number designating units in each rack;

channel = a number, used when there are multiple channels per unit;

var = the quantity being reported or controlled, e.g., voltage, temperature, etc.

Subsystem list

Subsystem	Description
OnDetectorPower	Low Voltage Power Supplies (for ASICs, etc)
CrateRails	Rack LVPS - rails
RackTemps	Rack temperatures
RackFans	Rack fans
RackProt	Rack protection system status
TPCBias	Bias HVPS -- TPC wires
TPCDrift	Drift HVPS - TPC
HVC	PMT HV channels
PCStatus	DAQ PC status
DAQStatus	Fast DAQ status – run status, etc. (sampled from Ganglia)
SEBStatus	SEB status – event rates, etc. (sampled from Ganglia)
Environment	Environment and Operations (sampled from facilities Metasys)
ODH	ODH status (sampled from cryo IFIX system or facilities Metasys)
ArPurity	Argon Purity Monitor
Cryo	Cryogenic sensor data (sampled from cryo IFIX system)

The file `uB-control-channels-primary.csv`¹ defines the names, types, descriptions, and number of units and channels for each subsystem.

¹ In our uBooNE DAQ git repository at `EPICS/make_db/uB-control-channels-primary.csv`, which may be viewed at https://cdcvns.fnal.gov/redmine/projects/ubooneddaq/repository/entry/EPICS/make_db/uB-control-channels-primary.csv?rev=HEAD.

Rack list

EPICS	Placard	Rack full name	Comment
TPC1	TPC-R1	TPC rack #1	TPC data collection
TPC2	TPC-R2	TPC rack #2	TPC data collection
TPC3	TPC-R3	TPC rack #3	TPC data collection
TPC4	TPC-R4	TPC rack #4	TPC data collection
TPC5	TPC-R5	TPC rack #5	TPC data collection
PS01	TPC-PS	Bias/Power rack	Wire bias and ASIC ps
TRPM	TPC-TRIG/PMT	Trigger/PMT rack	Trigger and PMT
HV01	DRIFT HV	High voltage (drift)	
LSR1	LASER-R1	Laser rack #1	
LSR2	LASER-R2	Laser rack #2	
PM01	PM-R1	Purity Monitor #1	
PM02	PM-R2	Purity Monitor #2	
DAQ1	DAQ-R1	DAQ rack 1	
DAQ2	DAQ-R2	DAQ rack 2	
DAQ3	DAQ-R3	DAQ rack 3	
DAQ4	DAQ-R4	DAQ rack 4	
BNET	BEAM NETWORK	Fermilab beam data rack	
CNET	COMPUTING NETWORK	Fermilab network rack	
DAQX	DAQ software	virtual 'rack' for DAQ info	Ganglia
ENVX	Env. controls s/w	virtual 'rack' for environ. data	METASYS
IFIX	Cryo software	virtual 'rack' for cryo data	IFIX

In the above table, “EPICS” refers to the rack code used in EPICS variable names, “Placard” is the sign on the rack, “full name” is a longer, human-friendly name, and “Comment” provides additional information. The file `uB-racks.csv`² contains the above data in computer-readable form.

Unit numbers and quantities

The file `uB-rack-contents.csv` contains computer-readable data on what devices are in each rack and the unit numbers to use for them, along with a field for comments or other descriptive text.

The file `uB-control-channels-pvar.csv` details the variables available for each “Primary” device, along with the EPICS device type to use and other EPICS data. Each subsystem has an associated “Primary” defined in `uB-control-channels-primary.csv`.

² Other files mentioned in this document can also be found in our uBooNE DAQ git repository in the `EPICS/make_db/` directory. (See previous footnote.)