CMTS-1 ACNET Naming Convention

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T: has been assigned by AD/Controls for CMTF devices. Similarly C: has been assigned for CMTF cryo system parameters. The feedcap and endcap are determined to be the demarcation point between C: and T: devices. Any cryogenics-related device up to and within said the caps will carry the C: prefix.

The cryomodules planned to be tested at CMTS-1 will contain a maximum of 8 cavities and a corrector magnet package. With this in mind CMTS-1 devices will thus have the naming scheme T:mnxxxx, where m = 1 through 8, Q, D for devices associated with cavities 1-8, the Quadrupole, or D (Horizontal or Vertical?) dipole correctors; n will denote a subsystem (described below) with devices that have such an m value.

Most systems will also have devices which are more global than ‘m’ as assigned above. In that case ‘m’ is defined as:

B – Magnetic sensors

C – Cryogenics (global)

E - Environmental

I – Interlocks

L – Low Level RF

O2 – ODH system/O2 sensors

R – High Level RF

T – Timing

W – Water

V – Vacuum

For devices with ‘m’ = 1 through 8 or Q or D, ‘n’ is then assigned similarly:

B – Magnetic sensor

C – Cryo

F – Fundamental power coupler

H – Horizontal dipole

I - Interlock

L – Low level RF

P – Power

R – High level RF

T – Tuner

TM – Timing

V – Vertical dipole.

The remaining characters will *be largely left to user discretion*, but the following conventions should be embedded where appropriate:

D – Delay

E – Event

F or FWD – Forward

F or FL – Flow

HUM – Humidity

I (J?) – Current (Amps)

IN – Input

LL – Liquid Level Probe & Transmitter

OUT – Output

P(H) – Phase

PS - Pressure

PW – Pulse Width

W or P – Power

R or REF – Reflected

S - Status

T – Transmitted

T – Temperature

TD – Diode Temperature Sensor

TX – Cernox Temperature Sensor

TP – Platinum Temperature sensor

TR – Carbon Resistor Temperature sensor

TC – Thermocouple sensor

TM – Time

V – Volts

Some examples:

Couplers

e- probes – T:mFFExx

PMT’s – T:mFPMxx

IR temp – T:mFTIxx

Photodiode temp – T:mFTDxx

sequencer devices – T:mFCPxx

coupler motor – T:mFMxxx

Cavities

Temperature – T:mCTxxx

Power – T:mRWFxx

Phase – T:mR(or L?)P(H)xx

HOM’s – T:mRHWxx (power), T:mCHMTx (temperature)

Helium vessel – T:mCHETx

Heater – T:mCHTxx

Tuner

Motor – T:mTMxxx – steps (position), temp, limits (status)

Piezo – T:mTPxxx

LFDC control devices (LLRF?) – T:mTLxxx

Following previously established standards, rad detectors will follow the G:RDxxxx protocol.

Identical devices in a particular section should be numbered sequentially beginning with 1.

Thus T:1FFEHV could be the device associated with the Cavity #1 Input Coupler Field Emission Probe ‘Hot Window’ Voltage and similar devices for the warm and cold windows would be T:1FFEWV, T:1FFECV. T:8RWFxx is an example device for Cavity 8 forward power

Special device names can be used on a one-by-one basis for ‘signature’ devices such as Module Total RF Voltage and similar parameters of global interest that should be easily recognizable to a larger audience.

DABBEL will only allow names to be created using the guidelines described above.

LONG NAMES

Acnet’s long names are a little more self-descriptive, for instance: *T:CMTS:CAV1:HLRF:Power:Forward.*

Long names for CMTS will have the form T:CMTS:mlong:nlong:rest where “mlong” and “nlong” are analogous to the ‘m’ and ‘n’ fields in the short names. Allowed values for mlong are:

Cav1 – Cavity 1

Cav2 – Cavity 2

Cav3 – Cavity 3

Cav4 – Cavity 4

Cav5 – Cavity 5

Cav6 – Cavity 6

Cav7 – Cavity 7

Cav8 – Cavity 8

Quad – Quadrupole

Dipole – Dipole

And the more global items:

Mag – Magnetic sensors

Cryo– Cryogenics (global)

Env - Environmental

ILock – Interlocks

LLRF – Low Level RF

Oxygen – ODH system/O2 sensors

HLRF – High Level RF

Timing – Timing

Water – Water

Vacuum – Vacuum

So, for example, the names would start with T:CMTS:Water:….

For devices with ‘mlong’ = Cav1 through Cav8 or Quad or Dipole,the subsystem ‘nlong’ is then assigned similarly:

Mag – Magnetic sensors

Cryo– Cryogenics (global)

Cplr – Fundamental power coupler

Horiz – Horizontal dipole (for Dipole Only)

ILock – Interlocks

LLRF – Low Level RF

HLRF – High Level RF

Power – Power

Timing – Timing

Tuner – Tuner

Vert – Vertical dipole (for Dipole Only)

Similar to the samples of short names for coupler-related devices, we would have

Couplers

e- probes – T:CMTS:CAV1:Cplr:FEP:signal

PMT’s – T:CMTS:CAV1:Cplr:PMT:signal

IR temp – T:CMTS:CAV1:Cplr:Temp:IR:signal

Photodiode temp – T:CMTS:CAV1:Cplr:Temp:PD:signal

sequencer devices – T:CMTS:CAV1:Cplr:Seq:signal

coupler motor – T:CMTS:CAV1:Cplr:Motor:signal

Here, of course, “signal” is replaced by an appropriate name of the quantity measured, for instance T:CMTS:CAV1:Cplr:Motor:Steps

The Tuner examples turn into this:

Motor – T:CMTS:CAV1:Tuner:Motor:signal – where signal could be steps (position), temp, limits (status)

Piezo – T:CMTS:CAV1:Tuner:Piezo:signal

LFDC control devices– T:CMTS:CAV1:Tuner:Lorentz:signal

Summary of Short name and Long name options

This should be the same information as above, only in tabular form.

For the Cavities and corrector magnets (T:mxxxxx or T:CMTS:mlong:xxxx)

|  |  |  |
| --- | --- | --- |
| System | Short name (m) | Long name (mlong) |
| Cavity 1 | 1 | CAV1 |
| Cavity 2 | 2 | CAV2 |
| Cavity 3 | 3 | CAV3 |
| Cavity 4 | 4 | CAV4 |
| Cavity 5 | 5 | CAV5 |
| Cavity 6 | 6 | CAV6 |
| Cavity 7 | 7 | CAV7 |
| Cavity 8 | 8 | CAV8 |
| Quadrupole | Q | Quad |
| Dipole | D | Dipole |

For more global systems (T:mxxxxx or T:CMTS:mlong:xxxx)

|  |  |  |
| --- | --- | --- |
| System | Short name (m) | Long name (mlong) |
| Magnetic sensors | B | Mag |
| Cryogenics (global) | C | Cryo |
| Environmental | E | Env |
| Interlocks | I | ILock |
| Low Level RF | L | LLRF |
| High Level RF | R | HLRF |
| ODH system/O2 sensors | O2 | Oxygen |
| Timing | T | Timing |
| Water | W | Water |
| Vacuum | V | Vacuum |

For the first table (Cavity 1-8, Quad and Dipole), allowed subsystems of the form T:mnxxxx or T:CMTS:mlong:nlong:xxxx are:

|  |  |  |
| --- | --- | --- |
| System | Short name (n) | Long name (nlong) |
| Magnetic sensors | B | Mag |
| Cryogenics (global) | C | Cryo |
| Fundamental Coupler | F | Cplr |
| Interlocks | I | ILock |
| Low Level RF | L | LLRF |
| High Level RF | R | HLRF |
| Power | P | Power |
| Timing | T | Timing |
| Horizontal dipole | H | Horiz |
| Vertical dipole | V | Vert |

Instrument types for fundamental coupler examples:

|  |  |  |
| --- | --- | --- |
| e- probes | FE | FEP |
| PMT’s | PM | PMT |
| IR temp | TI | Temp:IR |
| Photodiode temp | TD | Temp:PD |
| sequencer devices | CP | Seq |
| coupler motor | M | Motor |