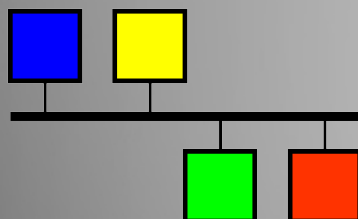


# EPICS



## BEST EPICS IOC

1.0-32

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Wednesday 16<sup>th</sup> March, 2022

## 1 IOC RECORDS

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### 1.1 \$(P):TetrAMM0:Ch1

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	TetrAMM Input Channel 1
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Waveform from input channel of TetrAmm picoammeter unit, BPM0. Default sampling frequency is 1kHz (decimation from 100kHz).

### 1.2 \$(P):TetrAMM1:Ch1

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	TetrAMM Input Channel 1
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Waveform from input channel of TetrAmm picoammeter unit, BPM1. Default sampling frequency is 1kHz (decimation from 100kHz).

### 1.3 \$(P):TetrAMM0:Ch2

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	TetrAMM Input Channel 2
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Waveform from input channel of TetrAmm picoammeter unit, BPM0. Default sampling frequency is 1kHz (decimation from 100kHz).

### 1.4 \$(P):TetrAMM1:Ch2

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	TetrAMM Input Channel 2
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Waveform from input channel of TetrAmm picoammeter unit, BPM1. Default sampling frequency is 1kHz (decimation from 100kHz).

quency is 1kHz (decimation from 100kHz).

## 1.5 \$(P):TetrAMM0:Ch3

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	TetrAMM Input Channel 3
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Waveform from input channel of TetrAmm picoammeter unit, BPM0. Default sampling frequency is 1kHz (decimation from 100kHz).

## 1.6 \$(P):TetrAMM1:Ch3

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	TetrAMM Input Channel 3
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Waveform from input channel of TetrAmm picoammeter unit, BPM1. Default sampling frequency is 1kHz (decimation from 100kHz).

## 1.7 \$(P):TetrAMM0:Ch4

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	TetrAMM Input Channel 4
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Waveform from input channel of TetrAmm picoammeter unit, BPM0. Default sampling frequency is 1kHz (decimation from 100kHz).

## 1.8 \$(P):TetrAMM1:Ch4

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	TetrAMM Input Channel 4
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Waveform from input channel of TetrAmm picoammeter unit, BPM1. Default sampling frequency is 1kHz (decimation from 100kHz).

## 1.9 \$(P):TetrAMM0:Range

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	TetrAMM Range

**Long description:**

Change TetrAMM range, BPM0.

## 1.10 \$(P):TetrAMM1:Range

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	TetrAMM Range

**Long description:**

Change TetrAMM range, BPM1.

## 1.11 \$(P):BPM0:PosX

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	Position X
FTVL	DOUBLE
EGU	um
NELM	1024
SCAN	1 second

**Long description:**

X position, BPM0.

## 1.12 \$(P):BPM1:PosX

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	Position X
FTVL	DOUBLE
EGU	um
NELM	1024
SCAN	1 second

**Long description:**

X position, BPM1.

## 1.13 \$(P):BPM0:PosY

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	Position Y
FTVL	DOUBLE
EGU	um
NELM	1024
SCAN	1 second

**Long description:**

Y position, BPM0.

### 1.14 \$(P):BPM1:PosY

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	Position Y
FTVL	DOUBLE
EGU	um
NELM	1024
SCAN	1 second

**Long description:**

Y position, BPM1.

### 1.15 \$(P):BPM0:Int

**Record Type:** waveform

**Fields:**



Field	Value
DTYP	CAENels BEST Waveform
DESC	Intensity
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Intensity, BPM0.

## 1.16 \$(P):BPM1:Int

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	Intensity
FTVL	DOUBLE
EGU	Amper
NELM	1024
SCAN	1 second

**Long description:**

Intensity, BPM0.

## 1.17 \$(P):BPM0:ScaleX

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	Set BPM0 position X
EGU	um/1

**Long description:**

X position scaling parameter, BPM0.

## 1.18 \$(P):BPM0:ScaleX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	Get BPM0 position X
EGU	um/1
SCAN	1 second

**Long description:**

X position scaling parameter, BPM0, readback value.

## 1.19 \$(P):BPM1:ScaleX

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	Set BPM1 position X
EGU	um/1

**Long description:**

X position scaling parameter, BPM1.

## 1.20 \$(P):BPM1:ScaleX\_RBV

Record Type: ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	Get BPM1 position X
EGU	um/1
SCAN	1 second

**Long description:**

X position scaling parameter, BPM1, readback value.

## 1.21 \$(P):BPM0:ScaleY

Record Type: ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	Set BPM0 position X
EGU	um/1

**Long description:**

Y position scaling parameter, BPM0.

## 1.22 \$(P):BPM0:ScaleY\_RBV

Record Type: ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	Get BPM position Y
EGU	um/1
SCAN	1 second

**Long description:**

Y position scaling parameter, BPM0, readback value.

### 1.23 \$(P):BPM1:ScaleY

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	Set BPM1 position Y
EGU	um/1

**Long description:**

Y position scaling parameter, BPM1.

### 1.24 \$(P):BPM1:ScaleY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	BPM position Y
EGU	um/1
SCAN	1 second

**Long description:**

Y position scaling parameter, BPM1, readback value.

## 1.25 \$(P):NumberTetrAMM

**Record Type:** mbbi

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbi
ZRST	No TetrAMMs
ONST	1 TetrAMM
TWST	2 TetrAMMs
SCAN	1 second

**Long description:**

Number of TetrAMMs/EnBOXes connected on the SFP.

## 1.26 \$(P):PID:Status

**Record Type:** mbbi

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbi
DESC	PID status
ZRST	Stopped
ONST	Stopped by ROC
TWST	Paused
THST	Running
SCAN	1 second

**Long description:**

Status of PID controller.

## 1.27 \$(P):PID:Enable

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	PID Enable
ZNAM	OFF
ONAM	ON

**Long description:**

Enable/disable PID controller.

## 1.28 \$(P):PID:Reset

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	PID Reset
VAL	0
ONAM	ON
ZNAM	OFF
HIGH	1

**Long description:**

Reset of PID controller.

## 1.29 \$(P):PID:SetpointX

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID Setpoint X
EGU	um

**Long description:**

Beam Setpoint on X position.

### 1.30 \$(P):PID:SetpointY

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID Setpoint Y
EGU	um

**Long description:**

Beam Setpoint on Y position.

### 1.31 \$(P):PID:SetpointI0

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID Setpoint I0
EGU	Amper

**Long description:**

Beam Setpoint on intensity.

### 1.32 \$(P):PID:SetpointX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID Setpoint X
EGU	um
SCAN	1 second

**Long description:**

Beam Setpoint on X position, readback value.

### 1.33 \$(P):PID:SetpointY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID Setpoint Y
EGU	um
SCAN	1 second

**Long description:**

Beam Setpoint on Y position, readback value.

### 1.34 \$(P):PID:SetpointI0\_RBV

**Record Type:** ai

**Fields:**



Field	Value
DTYP	CAENels BEST Ai
DESC	PID Setpoint I0
EGU	um
SCAN	1 second

**Long description:**

Beam Setpoint on intensity, readback value.

### 1.35 \$(P):PID:OffsetX

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID Offset X
EGU	V

**Long description:**

Beam Offset on X position.

### 1.36 \$(P):PID:OffsetX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Offset X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

Beam Offset on X position, readback value.

### 1.37 \$(P):PID:OffsetY

Record Type: ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID Offset Y
EGU	V

**Long description:**

Beam Offset on Y position.

### 1.38 \$(P):PID:OffsetY\_RBV

Record Type: ai

**Fields:**

Field	Value
DESC	PID Offset Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

Beam Offset on Y position, readback value.

### 1.39 \$(P):PID:OffsetI0

Record Type: ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID Offset I0
EGU	V

**Long description:**

Beam Offset on instensity.

## 1.40 \$(P):PID:OffsetI0\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Offset I0 Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

Beam Offset on instensity, readback value.

## 1.41 \$(P):PreDAC0:OutMux

**Record Type:** mbbo

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbo
DESC	Out mux (1=SW, 0=HW)
ONST	HW via FPGA
ZRST	SW via PCIe

**Long description:**

Set Output multiplexer. Output multiplexer allows to switch control from HW PID (HW via

FPGA) to software (SW via PCIe). PreDAC output is controlled by HW PID (HW via FPGA). User can then manually control PreDAC output channels (SW via PCIe).

## 1.42 \$(P):PreDAC0:OutMux\_RBV

**Record Type:** mbbi

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbi
DESC	Out mux (1=SW, 0=HW)
ONST	HW via FPGA
ZRST	SW via PCIe
SCAN	1 second

**Long description:**

Set Output multiplexer, readback value

## 1.43 \$(P):PreDAC0:OutCh1

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PreDAC Out Channels (manual)
EGU	V

**Long description:**

Manual drive PreDAC output, CH1. OutMux need to be set to SW via PCIe.

## 1.44 \$(P):PreDAC0:OutCh2

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PreDAC Out Channels (manual)
EGU	V

**Long description:**

Manual drive PreDAC output, CH2. OutMux need to be set to SW via PCIe.

## 1.45 \$(P):PreDAC0:OutCh3

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PreDAC Out Channels (manual)
EGU	V

**Long description:**

Manual drive PreDAC output, CH3. OutMux need to be set to SW via PCIe.

## 1.46 \$(P):PreDAC0:OutCh4

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PreDAC Out Channels (manual)
EGU	V

**Long description:**

Manual drive PreDAC output, CH4. OutMux need to be set to SW via PCIe.

## 1.47 \$(P):Login:UserPass

**Record Type:** stringout

**Fields:**

Field	Value
DTYP	CAENels BEST Stringout
DESC	User and Password, separated by colon

**Long description:**

Login command. Change user (cruise, user, admin).

## 1.48 \$(P):Login:Level

**Record Type:** mbbi

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbi
DESC	Current access level
ZRST	Cruise
ONST	User
TWST	Admin
SCAN	1 second

**Long description:**

Current login level.

## 1.49 \$(P):PreDAC0:Ch1\_RBV

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	PreDAC0 Output Channel 1
FTVL	DOUBLE
EGU	Volt
NELM	1024
SCAN	1 second

**Long description:**

PreDAC output data, CH1. OutMux need to be set to HW via FPGA.

## 1.50 \$(P):PreDAC0:Ch2\_RBV

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	PreDAC0 Output Channel 2
FTVL	DOUBLE
EGU	Volt
NELM	1024
SCAN	1 second

**Long description:**

PreDAC output data, CH2. OutMux need to be set to HW via FPGA.

## 1.51 \$(P):PreDAC0:Ch3\_RBV

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	PreDAC0 Output Channel 3
FTVL	DOUBLE
EGU	Volt
NELM	1024
SCAN	1 second

**Long description:**

PreDAC output data, CH3. OutMux need to be set to HW via FPGA.

## 1.52 \$(P):PreDAC0:Ch4\_RBV

**Record Type:** waveform

**Fields:**

Field	Value
DTYP	CAENels BEST Waveform
DESC	PreDAC0 Output Channel 4
FTVL	DOUBLE
EGU	Volt
NELM	1024
SCAN	1 second

**Long description:**

PreDAC output data, CH4. OutMux need to be set to HW via FPGA.



### 1.53 \$(P):PID:KpX

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Kp X
DTYP	CAENels BEST Ao

**Long description:**

Set PID Kp on X position.

### 1.54 \$(P):PID:KiX

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Ki X
DTYP	CAENels BEST Ao

**Long description:**

Set PID Ki on X position.

### 1.55 \$(P):PID:KdX

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Kd X
DTYP	CAENels BEST Ao

**Long description:**

Set PID Kd on X position.

## 1.56 \$(P):PID:eminX

Record Type: ao

**Fields:**

Field	Value
DESC	PID emin X
DTYP	CAENels BEST Ao

**Long description:**

Set PID emin on X position.

## 1.57 \$(P):PID:ImaxX

Record Type: ao

**Fields:**

Field	Value
DESC	PID Imax X
DTYP	CAENels BEST Ao

**Long description:**

Set PID Imax on X position.

## 1.58 \$(P):PID:OminX

Record Type: ao

**Fields:**

Field	Value
DESC	PID Omin X
DTYP	CAENels BEST Ao

**Long description:**

Set PID Omin on X position.

**1.59 \$(P):PID:OmaxX**

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Omax X
DTYP	CAENels BEST Ao

**Long description:**

Set PID Omax on X position.

**1.60 \$(P):PID:OgainX**

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Ogai X
DTYP	CAENels BEST Ao

**Long description:**

Set PID Kp Ogain X position.

**1.61 \$(P):PID:KpY**

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Kp Y
DTYP	CAENels BEST Ao

**Long description:**

Set PID Kp on Y position.

## 1.62 \$(P):PID:KiY

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Ki Y
DTYP	CAENels BEST Ao

**Long description:**

Set PID Ki on Y position.

## 1.63 \$(P):PID:KdY

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Kd Y
DTYP	CAENels BEST Ao

**Long description:**

Set PID Kd on Y position.

## 1.64 \$(P):PID:eminY

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID emin Y
DTYP	CAENels BEST Ao

**Long description:**

Set PID emin on Y position.

## 1.65 \$(P):PID:ImaxY

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Imax Y
DTYP	CAENels BEST Ao

**Long description:**

Set PID Imax on Y position.

## 1.66 \$(P):PID:OminY

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Omin Y
DTYP	CAENels BEST Ao

**Long description:**

Set PID Omin on Y position.

## 1.67 \$(P):PID:OmaxY

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Omax Y
DTYP	CAENels BEST Ao

**Long description:**

Set PID Omax on Y position.

## 1.68 \$(P):PID:OgainY

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Ogai Y
DTYP	CAENels BEST Ao

**Long description:**

Set PID Ogain on Y position.

## 1.69 \$(P):PID:KpI0

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Kp I0
DTYP	CAENels BEST Ao

**Long description:**

Set PID Kp on Intensity.

**1.70 \$(P):PID:KiI0**

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Ki I0
DTYP	CAENels BEST Ao

**Long description:**

Set PID Ki on Intensity.

**1.71 \$(P):PID:KdI0**

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Kd I0
DTYP	CAENels BEST Ao

**Long description:**

Set PID Kd on Intensity.

**1.72 \$(P):PID:eminI0**

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID emin I0
DTYP	CAENels BEST Ao

**Long description:**

Set PID emin on Intensity.

### 1.73 \$(P):PID:ImaxI0

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Imax I0
DTYP	CAENels BEST Ao

**Long description:**

Set PID Imax on Intensity.

### 1.74 \$(P):PID:OminI0

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Omin I0
DTYP	CAENels BEST Ao

**Long description:**

Set PID Omin on Intensity.



## 1.75 \$(P):PID:OmaxI0

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Omax I0
DTYP	CAENels BEST Ao

**Long description:**

Set PID Omax on Intensity.

## 1.76 \$(P):PID:OgainI0

**Record Type:** ao

**Fields:**

Field	Value
DESC	PID Ogain I0
DTYP	CAENels BEST Ao

**Long description:**

Set PID Ogain on Intensity.

## 1.77 \$(P):PID:KpX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Kp X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Kp on X position, readback value.

## 1.78 \$(P):PID:KiX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Ki X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Ki on X position, readback value.

## 1.79 \$(P):PID:KdX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Kd X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Kd on X position, readback value.

## 1.80 \$(P):PID:eminX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID emin X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID emin on X position, readback value.

### 1.81 \$(P):PID:ImaxX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Imax X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Imax on X position, readback value.

### 1.82 \$(P):PID:OminX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Omin X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Omin on X position, readback value.

### 1.83 \$(P):PID:OmaxX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Omax X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Omax on X position, readback value.

### 1.84 \$(P):PID:OgainX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Ogain X Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Ogain on X position, readback value.

### 1.85 \$(P):PID:KpY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Kp Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Kp on Y position, readback value.

## 1.86 \$(P):PID:KiY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Ki Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Ki on Y position, readback value.

## 1.87 \$(P):PID:KdY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Kd Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Kd on Y position, readback value.

## 1.88 \$(P):PID:eminY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID emin Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID emin on Y position, readback value.

## 1.89 \$(P):PID:ImaxY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Imax Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Imax on Y position, readback value.

## 1.90 \$(P):PID:OminY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Omin Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Omin on Y position, readback value.

## 1.91 \$(P):PID:OmaxY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Omax Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Omax on Y position, readback value.

## 1.92 \$(P):PID:OgainY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Ogain Y Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Ogain on Y position, readback value.

### 1.93 \$(P):PID:KpIO\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Kp IO Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Kp on Intensity, readback value.

### 1.94 \$(P):PID:KiIO\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Ki IO Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Ki on Intensity, readback value.

### 1.95 \$(P):PID:KdIO\_RBV

**Record Type:** ai

**Fields:**



Field	Value
DESC	PID Kd IO Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Kd on Intensity, readback value.

## 1.96 \$(P):PID:eminIO\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID emin IO Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID emin on Intensity, readback value.

## 1.97 \$(P):PID:ImaxIO\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Imax IO Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Imax on Intensity, readback value.

## 1.98 \$(P):PID:OminI0\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Omin I0 Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Omin on Intensity, readback value.

## 1.99 \$(P):PID:OmaxI0\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Omax I0 Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Omax on Intensity, readback value.

## 1.100 \$(P):PID:OgainI0\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DESC	PID Ogain I0 Readback
DTYP	CAENels BEST Ai
SCAN	1 second

**Long description:**

PID Ogain on Intensity, readback value.

### 1.101 \$(P):BPM0:Orient

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	BPM Orientation
ZNAM	45deg
ONAM	90deg

**Long description:**

Set BPM orient, BPM0.

### 1.102 \$(P):BPM1:Orient

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	BPM Orientation
ZNAM	45deg
ONAM	90deg

**Long description:**

Set BPM orient, BPM1.

### 1.103 \$(P):BPM0:Orient\_RBV

**Record Type:** mbbi

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbi
DESC	BPM Orientation
ONST	90deg
SCAN	1 second

**Long description:**

BPM orient, BPM0, readback value.

### 1.104 \$(P):BPM1:Orient\_RBV

**Record Type:** mbbi

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbi
DESC	BPM Orientation
ONST	90deg
SCAN	1 second

**Long description:**

BPM orient, BPM1, readback value.

## 1.105 \$(P):PID:INconfig

**Record Type:** mbbo

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbo
DESC	PID Configuration
ZRST	X
ONST	X & Y
TWST	X & IO
THST	Y
FRST	Y & IO
FVST	X & Y & IO
SXST	IO

**Long description:**

Set PID input configuration. Selects which PID controller to activate.

## 1.106 \$(P):PID:INconfig\_RBV

**Record Type:** mbbi

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbi
DESC	PID Configuration
SCAN	1 second
ZRST	X
ONST	X & Y
TWST	X & IO
THST	Y
FRST	Y & IO
FVST	X & Y & IO
SXST	IO

**Long description:**

PID input configuration, readback value.

### 1.107 \$(P):PID:OUTconfig

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID out confselect

**Long description:**

Set PID output configuration. Configure which PID os connected to which PreDAC output channel.

### 1.108 \$(P):PID:OUTconfig\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID out conf
SCAN	1 second

**Long description:**

PID output configuration, readback value.

### 1.109 \$(P):BPM:Selector

**Record Type:** mbbo

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbo
DESC	BPM Selector Configuration
ZRST	0 0 0
ONST	0 0 1
TWST	0 1 0
THST	0 1 1
FRST	1 0 0
FVST	1 0 1
SXST	1 1 0
SVST	1 1 1

**Long description:**

Set BPM selector. 0: BPM0, 1: BPM1. example: "0 1 0" means X: BPM0, Y: BPM1, IO: BPM0.

## 1.110 \$(P):BPM:Selector\_RBV

**Record Type:** mbbi

**Fields:**

Field	Value
DTYP	CAENels BEST Mbbi
DESC	PID Configuration
SCAN	1 second
ZRST	0 0 0
ONST	0 0 1
TWST	0 1 0
THST	0 1 1
FRST	1 0 0
FVST	1 0 1
SXST	1 1 0
SVST	1 1 1

**Long description:**

BPM selector, readback value.

### 1.111 \$(P):BPM0:Crossbar

Record Type: ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	BPM Crossbar

**Long description:**

Set BPM Crossbar, BPM0.

### 1.112 \$(P):BPM0:Crossbar\_RBV

Record Type: ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	BPM Crossbar
SCAN	1 second

**Long description:**

BPM0 Crossbar readback value.

### 1.113 \$(P):BPM1:Crossbar

Record Type: ao

**Fields:**



Field	Value
DTYP	CAENels BEST Ao
DESC	BPM Crossbar

**Long description:**

Set BPM Crossbar, BPM1.

### 1.114 \$(P):BPM1:Crossbar\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	BPM Crossbar
SCAN	1 second

**Long description:**

BPM1 Crossbar readback value.

### 1.115 \$(P):BPM0:ENARocX

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	PID ENA ROC, BPM0, X pos
ZNAM	Disabled
ONAM	Enabled

**Long description:**

Enable ROC X on BPM0.

### 1.116 \$(P):BPM0:ENArOcY

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	PID ENA ROC, BPM0, Y pos
ZNAM	Disabled
ONAM	Enabled

**Long description:**

Enable ROC Y on BPM0.

### 1.117 \$(P):BPM0:ENAbeamOff

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	PID ENA ROC, BPM0, I0
ZNAM	Disabled
ONAM	Enabled

**Long description:**

Enable Beam Off Threshold on BPM0.

### 1.118 \$(P):BPM1:ENArOcX

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	PID ENA ROC, BPM1, X pos
ZNAM	Disabled
ONAM	Enabled

**Long description:**

Enable ROC X on BPM1.

### 1.119 \$(P):BPM1:ENArOcY

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	PID ENA ROC, BPM1, Y pos
ZNAM	Disabled
ONAM	Enabled

**Long description:**

Enable ROC Y on BPM1.

### 1.120 \$(P):BPM1:ENAbEamOff

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	PID ENA ROC, BPM1, I0
ZNAM	Disabled
ONAM	Enabled

**Long description:**

Enable Beam Off Threshold on BPM1.

### 1.121 \$(P):BPM0:ENArOcX\_RBV

**Record Type:** bi

**Fields:**

Field	Value
DTYP	CAENels BEST Bi
DESC	PID ENA ROC RBV, BPM0, X pos
ZNAM	Disabled
ONAM	Enabled
SCAN	1 second

**Long description:**

Enable ROC X on BPM0, readback value.

### 1.122 \$(P):BPM0:ENArOcY\_RBV

**Record Type:** bi

**Fields:**

Field	Value
DTYP	CAENels BEST Bi
DESC	PID ENA ROC RBV, BPM0, Y pos
ZNAM	Disabled
ONAM	Enabled
SCAN	1 second

**Long description:**

Enable ROC Y on BPM0, readback value.

### 1.123 \$(P):BPM0:ENAbeamOff\_RBV

**Record Type:** bi

**Fields:**

Field	Value
DTYP	CAENels BEST Bi
DESC	PID ENA ROC RBV, BPM0, IO
ZNAM	Disabled
ONAM	Enabled
SCAN	1 second

**Long description:**

Enable Beam Off Threshold on BPM0, readback value.

### 1.124 \$(P):BPM1:ENArOcX\_RBV

**Record Type:** bi

**Fields:**

Field	Value
DTYP	CAENels BEST Bi
DESC	PID ENA ROC RBV, BPM1, X pos
ZNAM	Disabled
ONAM	Enabled
SCAN	1 second

**Long description:**

Enable ROC X on BPM1, readback value.

### 1.125 \$(P):BPM1:ENArOcY\_RBV

**Record Type:** bi

**Fields:**

Field	Value
DTYP	CAENels BEST Bi
DESC	PID ENA ROC RBV, BPM1, Y pos
ZNAM	Disabled
ONAM	Enabled
SCAN	1 second

**Long description:**

Enable ROC Y on BPM1, readback value.

### 1.126 \$(P):BPM1:ENABeamOff\_RBV

**Record Type:** bi

**Fields:**

Field	Value
DTYP	CAENels BEST Bi
DESC	PID ENA ROC RBV, BPM1, IO
ZNAM	Disabled
ONAM	Enabled
SCAN	1 second

**Long description:**

Enable Beam Off Threshold on BPM1, readback value.

### 1.127 \$(P):BPM0:RocX

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID ROCX limits
EGU	um

**Long description:**

Set ROC on X position, BPM0.

**1.128 \$(P):BPM1:RocX**

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID ROCX limits
EGU	um

**Long description:**

Set ROC on X position, BPM1.

**1.129 \$(P):BPM0:RocY**

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID ROCY limits
EGU	um

**Long description:**

Set ROC on Y position, BPM0.

### 1.130 \$(P):BPM1:RocY

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID ROCY limits
EGU	um

**Long description:**

Set ROC on Y position, BPM1.

### 1.131 \$(P):BPM0:BeamOffTh

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID ROC limits
EGU	Amper

**Long description:**

Set Beam Off Threshold, BPM0.

### 1.132 \$(P):BPM1:BeamOffTh

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID ROC limits
EGU	Amper



**Long description:**

Set Beam Off Threshold, BPM1.

### 1.133 \$(P):BPM0:RocX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID ROCX limits
EGU	um
SCAN	1 second

**Long description:**

ROC on X position, BPM0, readback value.

### 1.134 \$(P):BPM1:RocX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID ROCX limits
EGU	um
SCAN	1 second

**Long description:**

ROC on X position, BPM1, readback value.

### 1.135 \$(P):BPM0:RocY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID ROCY limits
EGU	um
SCAN	1 second

**Long description:**

ROC on Y position, BPM0, readback value.

### 1.136 \$(P):BPM1:RocY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID ROCY limits
EGU	um
SCAN	1 second

**Long description:**

ROC on Y position, BPM1, readback value.

### 1.137 \$(P):BPM0:BeamOffTh\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID ROC limits
EGU	Amper
SCAN	1 second

**Long description:**

Beam Off Threshold, BPM0, readback value.

### 1.138 \$(P):BPM1:BeamOffTh\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID ROC limits
EGU	Amper
SCAN	1 second

**Long description:**

Beam Off Threshold, BPM1, readback value.

### 1.139 \$(P):BPM0:OffsetX

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	BPM0 offset X
EGU	um

**Long description:**

Set BPM0 Offset on X position.

### 1.140 \$(P):BPM0:OffsetX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	BPM0 offset X RBV
SCAN	1 second
EGU	um

**Long description:**

BPM0 Offset on X position, readback value.

### 1.141 \$(P):BPM1:OffsetX

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	BPM1 offset X
EGU	um

**Long description:**

Set BPM1 Offset on X position.

### 1.142 \$(P):BPM1:OffsetX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	BPM1 offset X RBV
SCAN	1 second
EGU	um

**Long description:**

BPM1 Offset on X position, readback value.

### 1.143 \$(P):BPM0:OffsetY

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	BPM0 offset Y

**Long description:**

Set BPM0 Offset on Y position.

### 1.144 \$(P):BPM0:OffsetY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	BPM0 offset Y RBV
SCAN	1 second

**Long description:**

BPM0 Offset on Y position, readback value.

### 1.145 \$(P):BPM1:OffsetY

Record Type: ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	BPM1 offset Y

**Long description:**

Set BPM1 Offset on Y position.

### 1.146 \$(P):BPM1:OffsetY\_RBV

Record Type: ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	BPM1 offset Y RBV
SCAN	1 second
EGU	um

**Long description:**

BPM1 Offset on Y position, readback value.

### 1.147 \$(P):PID:FreqX

Record Type: ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PIDX Update Frequency

**Long description:**

Change PID Update Frequency on X position.

### 1.148 \$(P):PID:FreqX\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID X Update Frequency RBV
SCAN	1 second
EGU	Hz

**Long description:**

PID Update Frequency on X position, readback value.

### 1.149 \$(P):PID:FreqY

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID Y Update Frequency

**Long description:**

Change PID Update Frequency on Y position.

### 1.150 \$(P):PID:FreqY\_RBV

**Record Type:** ai

**Fields:**

Field	Value
DTYP	CAENels BEST Ai
DESC	PID Y Update Frequency RBV
SCAN	1 second
EGU	Hz

**Long description:**

PID Update Frequency on Y position, readback value.

### 1.151 \$(P):PID:FreqI0

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	PID I0 Update Frequency

**Long description:**

Change PID Update Frequency on Intensity

### 1.152 \$(P):PID:FreqI0\_RBV

**Record Type:** ai

**Fields:**



Field	Value
DTYP	CAENels BEST Ai
DESC	PID IO Update Frequency RBV
SCAN	1 second
EGU	Hz

**Long description:**

PID Update Frequency on Intensity, readback value.

### 1.153 \$(P):BEST:Init

**Record Type:** bo

**Fields:**

Field	Value
DTYP	CAENels BEST Bo
DESC	Best Init from Config
ZNAM	Success
ONAM	Failure

**Long description:**

BEST initialization procedure. This command read the BEST configuration file and programs the FPGA with the last saved configuration.

### 1.154 \$(P):TetrAMM0:HVvoltage

**Record Type:** ao

**Fields:**

Field	Value
DTYP	CAENels BEST Ao
DESC	TetrAMM HV voltage

**Long description:**

Set TetrAMM HV voltage, BPM0.

### 1.155 \$(P):TetrAMM1:HVvoltage

Record Type: ao

Fields:

Field	Value
DTYP	CAENels BEST Ao
DESC	TetrAMM HV voltage

Long description:

Set TetrAMM HV voltage, BPM1.

### 1.156 \$(P):TetrAMM0:HVenable

Record Type: bo

Fields:

Field	Value
DTYP	CAENels BEST Bo
DESC	TetrAMM HV enable
ZNAM	Disabled
ONAM	Enabled

Long description:

Enable TetrAMM HV module, BPM0.

### 1.157 \$(P):TetrAMM1:HVenable

Record Type: bo

Fields:

Field	Value
DTYP	CAENels BEST Bo
DESC	TetrAMM HV enable
ZNAM	Disabled
ONAM	Enabled

**Long description:**

Enable TetrAMM HV module, BPM1.

### 1.158 \$(P):BEST:SFPA\_RBV

**Record Type:** bi

**Fields:**

Field	Value
DTYP	CAENels BEST Bi
DESC	TetrAMM on SFP A
ZNAM	No TetrAMM
ONAM	TetrAMM
SCAN	1 second

**Long description:**

Check if a device (TetrAMM/EnBOX) is connected on SFP A.

### 1.159 \$(P):BEST:SFPB\_RBV

**Record Type:** bi

**Fields:**

Field	Value
DTYP	CAENels BEST Bi
DESC	TetrAMM on SFP B
ZNAM	No TetrAMM
ONAM	TetrAMM
SCAN	1 second

**Long description:**

Check if a device (TetrAMM/EnBOX) is connected on SFPB.