

Controllers Breakout Command Reference

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controller breakout (otn mode)

To configure breakout controller in otn mode, use the **controller optics breakout-mode otn** command in the config mode.

controller optics *R/S/I/P* {**breakout-mode** *lane id*} { **otn** }{ **framing** *framing type*}

Syntax Description

controller optics	Name of the controller
R/S/I/P	Displays the Rack/Slot/Instance/Port of the controller.
breakout-mode	Breakout mode.
otn	Type of the controller.
framing	Framing for the breakout-mode.

Command Default

None

Command Modes

Config mode

Command History

Release	Modification
Release 5.2.4	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command contact your AAA administrator for assistance.

Task ID

Task ID	Operation
Breakout	write

Example

The following example shows how to configure a breakout controller:

```
RP/0/RP0:hostname(config)# controller optics 0/15/0/0 breakout-mode 3 otn framing opu2
RP/0/RP0:hostname(config-optics)# commit
```

controller breakout (ethernet mode)

To configure breakout controller in ethernet mode, use the **controller optics breakout-mode ethernet** command in the config mode.

controller optics *R/S/I/P* {**breakout-mode** *lane id*} { **ethernet** } { **framing** *framing type* **mapping** *mapping t ype*}

Syntax Description

controller optics	Name of the controller
R/S/I/P	Displays the Rack/Slot/Instance/Port of the controller.
breakout-mode	Breakout mode.
ethernet	Type of the controller.
framing	Framing for the breakout-mode.
mapping	Mapping for the breakout-mode.

Command Default

None

Command Modes

Config mode

Command History

Release	Modification
Release 5.2.4	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command contact your AAA administrator for assistance.

Task ID

Task ID	Operation
Breakout	write

Example

The following example shows how to configure a breakout controller:

```
RP/0/RP0:hostname(config)# controller optics 0/15/0/0 breakout-mode 3 ethernet framing odu2
 mapping gfpf
RP/0/RP0:hostname(config-optics)# commit
```

controller breakout (sonet mode)

To configure breakout controller in sonet mode, use the **controller optics breakout-mode sonet** command in the config mode.

controller optics *R/S/I/P* {**breakout-mode** *lane id*} { **sonet** } { **framing** *framing type* **mapping** *mapping type*}

Syntax Description

controller optics	Name of the controller
R/S/I/P	Displays the Rack/Slot/Instance/Port of the controller.
breakout-mode	Breakout mode.
sonet	Type of the controller.
framing	Framing for the breakout-mode.
mapping	Mapping for the breakout-mode.

Command Default

None

Command Modes

Config mode

Command History

Release	Modification
Release 6.1.2.2	This command was introduced.

Task ID

Task ID	Operation
Breakout	write

Example

The following example shows how to configure a breakout controller:

```
RP/0/RP0:hostname(config)# controller optics 0/11/0/3 breakout-mode 1 sonet framing opu2
mapping bmp
RP/0/RP0:hostname(config-optics)# commit
```

controller breakout (sdh mode)

To configure breakout controller in sdh mode, use the **controller optics breakout-mode sdh** command in the config mode.

controller optics *R/S/I/P* {**breakout-mode** *lane id*} { **sdh** } { **framing** *framing type* **mapping** *mapping type*}

Syntax Description

controller optics	Name of the controller
R/S/I/P	Displays the Rack/Slot/Instance/Port of the controller.
breakout-mode	Breakout mode.
sdh	Type of the controller.
framing	Framing for the breakout-mode.
mapping	Mapping for the breakout-mode.

Command Default

None

Command Modes

Config mode

Command History

Release	Modification
Release 6.1.2.2	This command was introduced.

Task ID

Task ID	Operation
Breakout	write

Example

The following example shows how to configure a breakout controller:

```
RP/0/RP0:hostname(config)# controller optics 0/11/0/3 breakout-mode 1 sdh framing opu2
mapping bmp
RP/0/RP0:hostname(config-optics)# commit
```

controller breakout (LAN PHY mode)

To configure breakout controller in LAN PHY mode, use the **controller optics breakout-mode ethernet framing packet mode** command in the config mode.

controller optics *R/S/I/P* **breakout-mode** *lane id* **ethernet framing** *packet* **mode** *data rate*

Syntax Description

controller optics	Name of the controller
R/S/I/P	Enter the Rack/Slot/Instance/Port of the breakout controller.
breakout-mode	Breakout mode.
ethernet	Type of the controller.
framing *packet*	Framing for the breakout mode.
packet	Set framing type as packet.
mode *data rate*	Set data rate for the packet framing type. Supported data rates: • 1x100GE • 2x100GE • 3x100GE • 4x100GE

Command Default

None

Command Modes

Config mode

Command History

Release	Modification
Release 6.5.35	Parameter **mode** was added.
Release 6.1.36	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command contact your AAA administrator for assistance.

Task ID

Task ID	Operation
Breakout	write

Example 1

The following example shows how to configure a HundredGigE 0/15/0/0/3 breakout controller in LAN PHY mode:

```
RP/0/RP0:hostname(config)# controller optics 0/15/0/0 breakout-mode 3 ethernet framing
packet
RP/0/RP0:hostname(config-optics)# commit
```

Example 2

The following example configures the breakout mode to 1x100GE data rate for the NCS4K-4H-QDD-P line card Ethernet controller.

```
RP/0/ (config-Optics)# transmit-power -95
RP/0/ (config-Optics)# dwdm-carrier 50GHz-grid itu-ch 2
RP/0/ (config-Optics)# breakout-mode Ethernet framing packet mode 1x100
```

Table 1: Supported Data Rates for NCS4K-4H-QDD-P Card Ports

Port	Supported Data Rates
4	• 1x100GE • 2x100GE • 3x100GE • 4x100GE
5	• 1x100GE • 2x100GE
6	• 1x100GE
7	• 1x100GE

show breakout-mode

To display details of breakout mode, use the **show breakout-mode** command in the exec mode.

show controller optics *R/S/I/P* {**breakout-mode lane** *lane number*} { **capability**}

Syntax Description

optics	Name of the port.
lane number	Displays the Rack/Slot/Instance/Port of the controller.
breakout-mode	Breakout mode.
lane	Displays the lane number.

Command Default

None

Command Modes

Exec mode

Command History

Release	Modification
Release 5.2.4.6	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command contact your AAA administrator for assistance.

Task ID

Task ID	Operation
Breakout	write

Example

The following example shows how to configure a breakout controller.

```
RP/0/RP0:hostname# show controller optics 0/0/0/1 breakout-mode lane 1 capabilities
```

```
BreakOut Information
------------------------------------------------
Port_no         Breakout Type   Framing                 Mapping
PT type                                         Rate
0               Ethernet        OPU2 framing type       GFP-F mapping type
05 (GFP mapping)                                None
0               Ethernet        OPU2 framing type       GFP-F-Extended mapping
type     09 (GFP mapping into OPU2)                      None
0               Ethernet        OPU Flex framing type   GFP-F mapping type
09 (GFP mapping into OPU2)                      10GE
0               Ethernet        OPU Flex framing type   GFP-F mapping type
09 (GFP mapping into OPU2)                      None
0               OTN             OPU2 framing type       None mapping type
Traffic Dependent                               None
```

```
0               OTN             OPU2e framing type      None mapping type
Traffic Dependent                                 None
0               OTN             OPU1f framing type      None mapping type
Traffic Dependent                                 None
0               OTN             OPU2f framing type      None mapping type
Traffic Dependent                                 None
0               Ethernet        Packet framing type     None mapping type
NA                                                10GE
RP/0/RP0:SIT06#
```

```
RP/0/RP0:hostname# show controller optics 0/0/0/1 breakout-mode lane 1 configured
```

```
BreakOut Information
------------------------------------------------
Breakout type   Lane    Framing                 Mapping                 PT type
                                        Rate
Ethernet        1       OPU2 framing type       GFP-F mapping type      05 (GFP
mapping)                                None
RP/0/RP0:SIT06#
```