
# QPatch Compact Opto 465

# Stimulate light-sensitive ion channels

With the **Opto 465 integration kit**, you can take full control of your ion channel experiments—using light to explore cellular excitability, ion channel function, and pharmacology like never before. By pairing optogenetic stimulation with automated patch clamping, you will reveal deeper insights faster. And because QPC Opto 465 is designed specifically for QPatch Compact, you get precise, reproducible stimulation and consistently high-quality data you can trust.

- **Perfect for studying light-gated ion channels, light-sensitive chemistry, and light-sensitive internal biological processes**
- **Well-by-well control for accurate light-to-cell correlation and accurate data analysis**
- **Adjustable blue-light intensity for precise, reproducible activation**
- **Guided tracking of stimulation timing to ensure consistency and prevent errors**
- **Upgradeable wavelengths for future research needs**

The custom made **Opto-pen** ensures precise delivery of the light quant without any fake light slipping in.
The timing is controlled by the user and is logged by the software in the QPC to make the analysis accurate.

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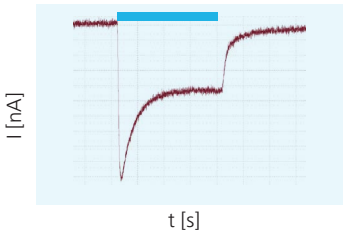
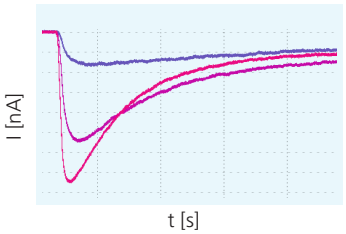
# Control both the timing and intensity of light stimulation. Powerful enough to activate intracellular processes.

**Optogenetics**



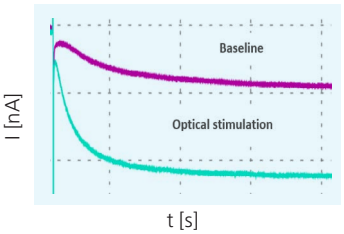

λ = 465 nm
t = 200 ms
Channelrhodopsin-2

**Optopharmacology**




GABAAR
RUBI-GABA

**Photoactivation**




bPAC/HCN2

# Technical specifications

The QPC Opto 465 is compatible with QPatch Compact of any generation and consists of 4 parts

## LED for simulation

| | |
|---|---|
| **Electrical connection** | 1 meter long pigtailed cable M8 connector<br>4 positions - male |
| **Dimensions** | 63 x 59 x 21 mm with baseplate |
| **Weight** | 100 g |
| **Stimulation activation** | Manually, via remote control |


**465 nm LED for simulation**
CLED_465: Connectorized LED: 465 nm

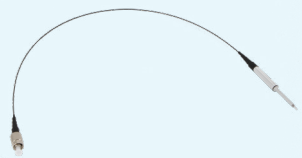
## LED driver

| | |
|---|---|
| **TTL modulation** | HI > 2.8 V<br>LOW < 2.3 V |
| **Analogue modulation** | 0 - 5 V (400 mA / V) |
| **Output current** | 40 - 2000 mA or 4 - 200 mA in low power mode<br>* 0.000 mA when OFF or V-IN < 0.1 V |
| **Rise / Fall time** | < 10 µsec |
| **Dimensions** | 175 x 50 x 105 mm |
| **Weight** | 580 g |
| **Stimulation activation** | Manually, via remote control |


**LED driver, power source for the LED**
LEDD_1: LED driver, 1 channel model
(with adapter for EU, US, UK and AUS)

## Opto pen - optic patch cord

| | |
|---|---|
| **Length** | 50 cm |
| **Material** | Silica/Silica |
| **Core** | 400 µm |
| **Jacket** | 900 µm |



**Designed for guided insertion into the QPC manifold**
Mono fiberoptic patchcord

## Remote control

| | |
|---|---|
| **Stimulation modes** | *Trigger:* Gives one light impulse with length equal to as long as suppressed<br>*Gate:* Is an on/off switch to light stimulation |
| **Logging of stimulation** | Timing is guided by QPatch Compact software |


**External TTL pulser - including USB power cable and BNC signal cable**

GD45922-2