60 kHz Repetition Rate NanoSpeed™ Switch Driver

(1x1, 1x2, 2x1 Dual Stage/High Power standard)

(Protected by U.S. patent 7,403,677B1 and pending patents)

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The NS switch driver provides a convenient way to use the NS series electro-optical switches, which act as a pure capacitive load. Each driver is tuned to a specific device mounted on the PCB. To operate, the customer only needs to plug in the accompanying DC power supply and input a control signal through the golden SMA connector. The switch will be activated as the input voltage exceeds 3V with less than 1μA draw, compatible with 3.3V CMOS/TTL. We produce boards to control multiple NS switches with individual SMA connectors. No computer-based control software is available for such a high-speed operation.

The dual-stage configuration increases the extinction ratio or cross-talk value.

Features

- High speed
- High repetition
- High output voltage
- Wide input voltage range
- TTL/CMOS control
- Push-Pull output design
- Low power consumption
- Compact and low cost

Applications

- Optical Switch
- EO device driver

Specifications

Parameter	Min	Typical	Max	Unit
Rise Time (Tr) [1]		85	100	ns
Fall Time (Tf) [2]		85	100	ns
Repetition Rate	DC		60	kHz
Pulse Width	1.0			μs
Control Input (TTL pulse)	0		5	V
Power Consumption			5	W
Power Current	0.08		0.4	A
Power Supply		12		V
Operating Temperature	-5		70	°C
Storage Temperature	-40		80	°C
Electrical Connector		SMA		

Note:
[1] Optic Intensity Change from 10% to 90% intuits;
[2] Optic Intensity Change from 90% to 10% intuits;
[3] Switch Speed (Rise): Duration from begin of electronic signal to end of optic intensity change;
[4] Switch Speed (Fall): Duration from begin of electronic signal to end of optic intensity change.

Warning: Control Signal >5.5V Will Damage the Board

Warning: **This is an OEM module designed for system integration. Do not touch the PCB by hand. The electrical static can kill the chips even without a power plug-in. Unpleasant electrical shock may also be felt. For laboratory use, please buy a Turnkey system.**

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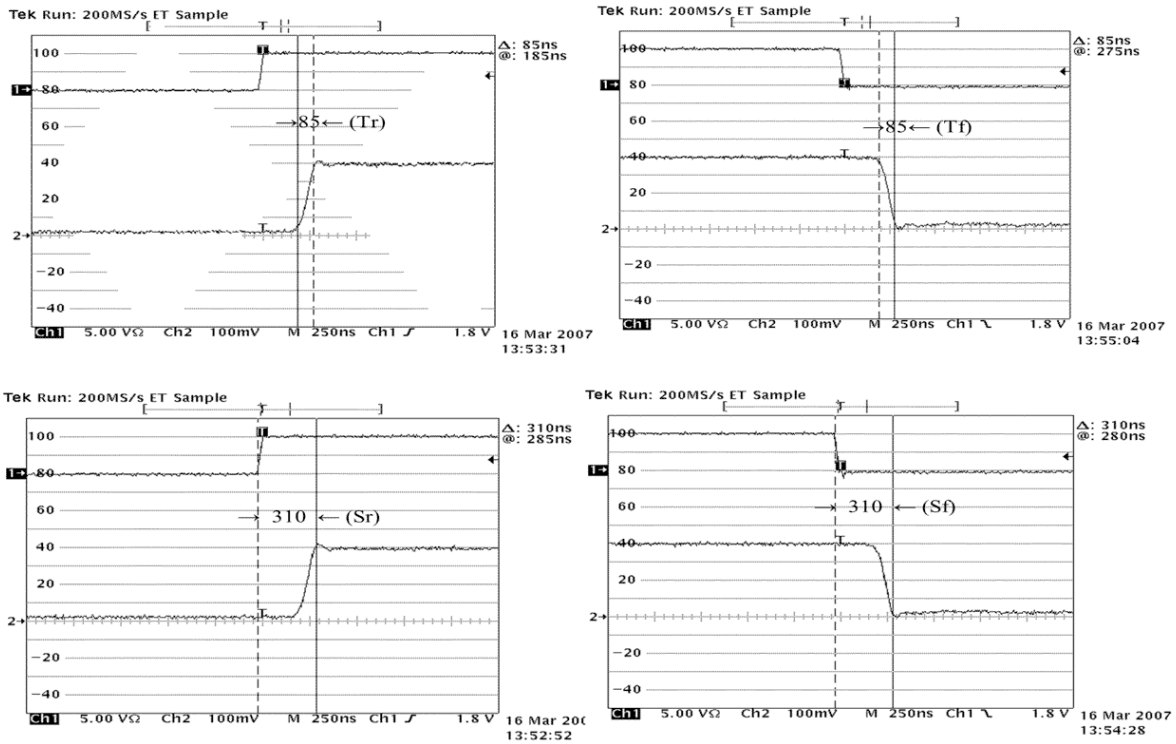
Rev 11/30/24

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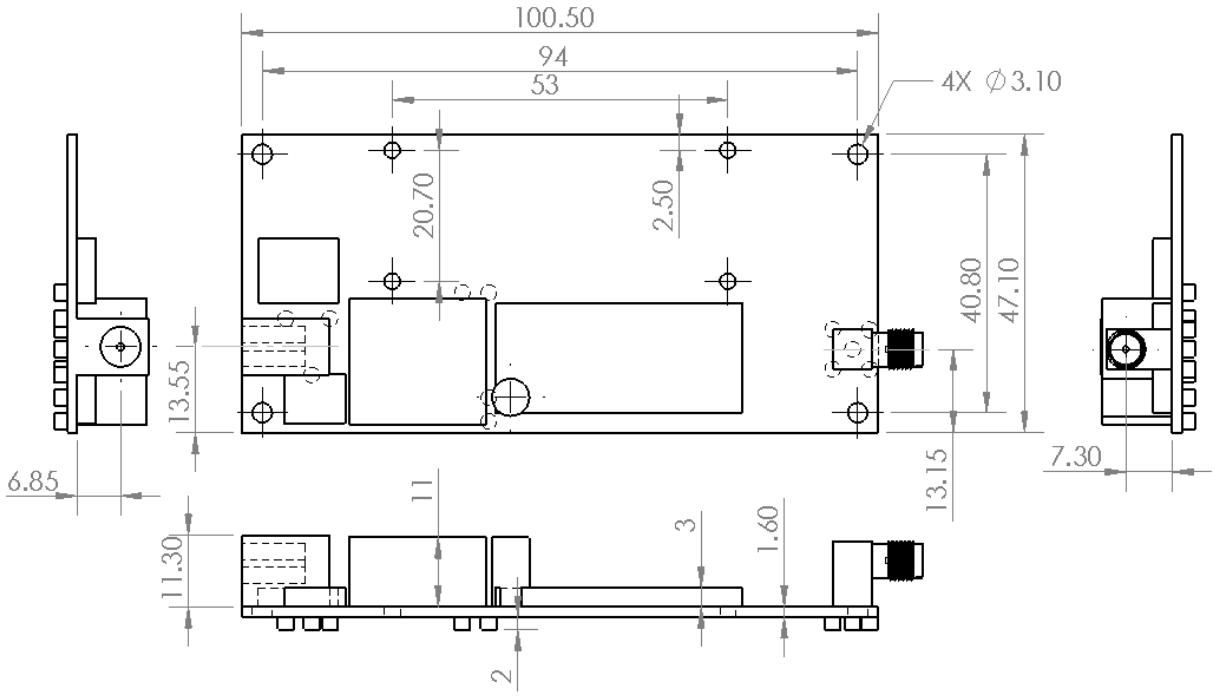
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Response Measurement



Dimensions (mm)



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

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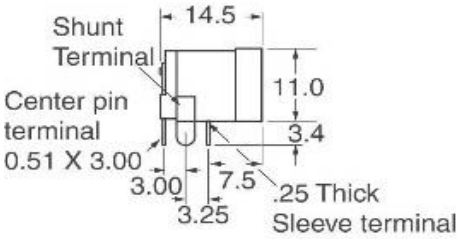
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DC Power Connection

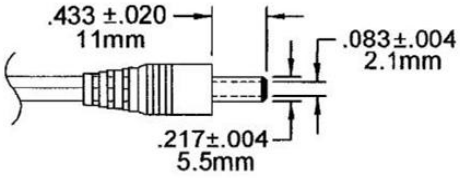
Variation 1

P/N: SC1313-ND
Power Barrel Connector Jack 2.00mm ID (0.079"), 5.50mm OD (0.217") Through Hole, Right Angle

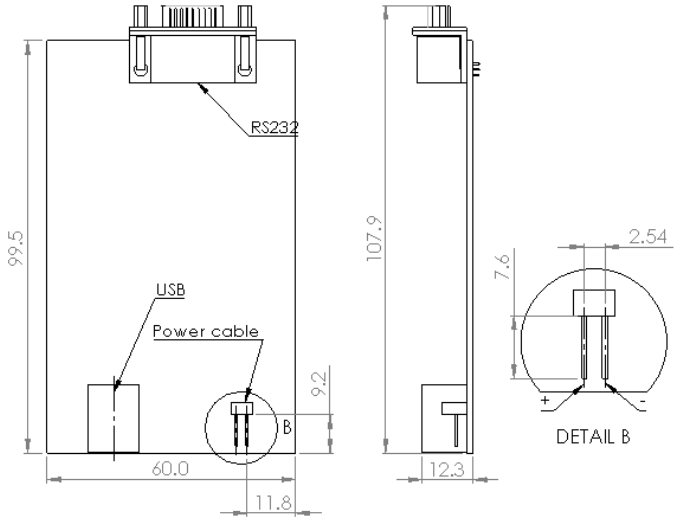


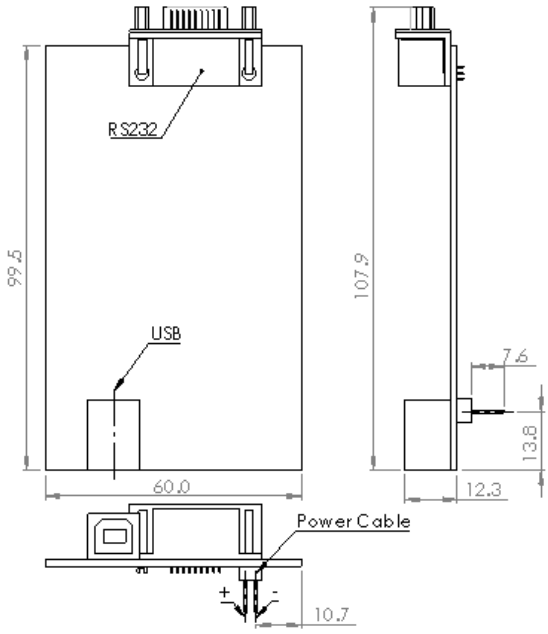


12V Wall Plug DC Power Supply Interface



Variation 2





Note: The DC Power Barrel Jack Connector can be replaced with a two-pin connector, available in two configurations: one with pins facing downward for direct PCB mounting and another for connection with a standard cable connector. This flexibility allows for integration into various system designs.

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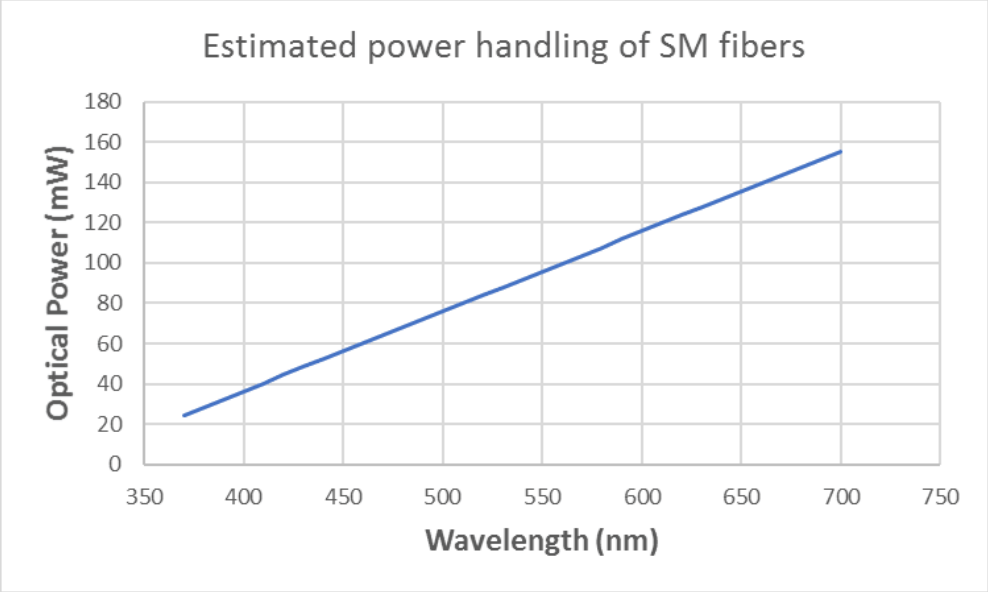
Ordering Information (Part Number)

	2	☐☐	2	6	1	1	1	☐
Prefix	**Switch Type**	**Function**	**Latching**	**Repeat rate**	**Footprint**	**# of Switch**	**Control Mode**	**DC supply**
SWDR-	Standard DSS [1] = 2	1x1 = 1a Special=00	Non = 2	60kHz = 6	Standard = 1 Special = 0		TTL = 1 Special = 0	12VDC = 1 Special = 0

NOTE:

- ❑ This driver is intended mounted with specific switches, tuned, and tested prior to shipping. It is not designed to be sold separately.

Optical Power Handling vs Wavelength For Single-Mode Fibers



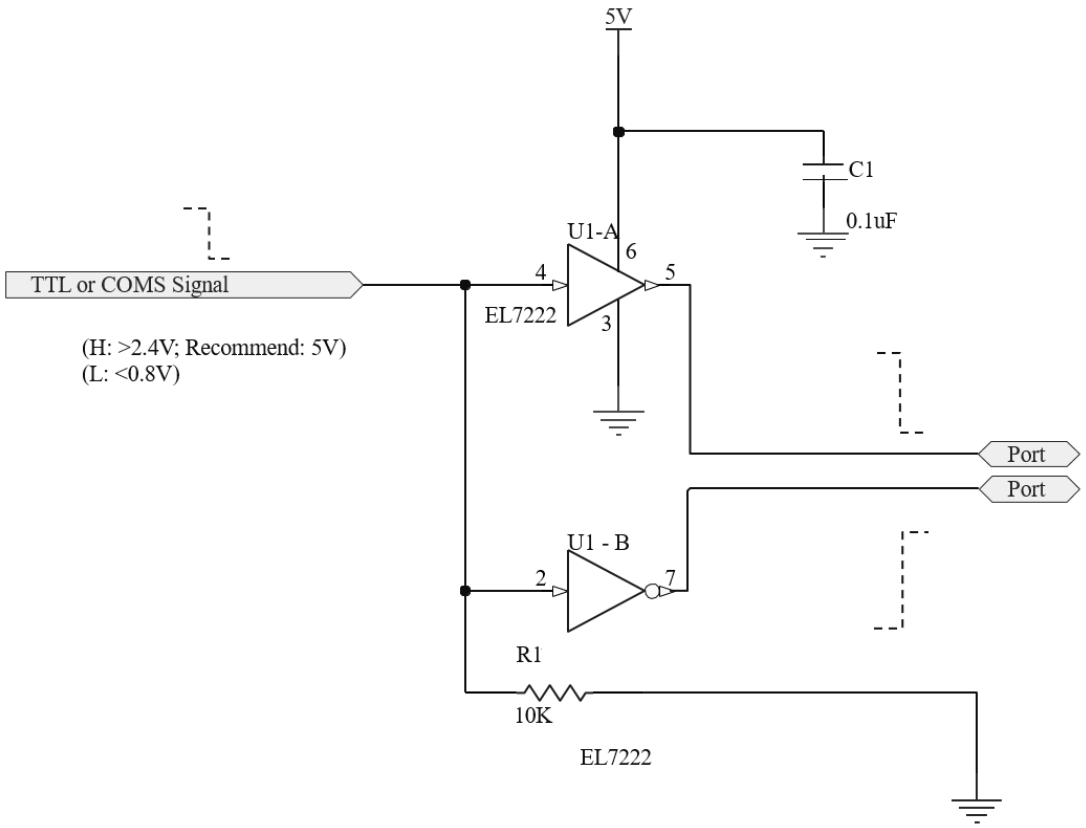
Operation Manual

1. Connect a control signal to the SMA connector on the PCB.
2. Attach the accompanied power supply (typically a wall-pluggable unit).
3. The device should then function properly.

Note: Do not alter device factory settings.

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TTL Driver Interface (Our Circuit Diagram)



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