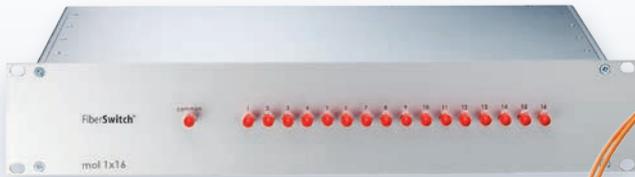


Optical switch integrated pattern defect detection system for semiconductor manufacturing

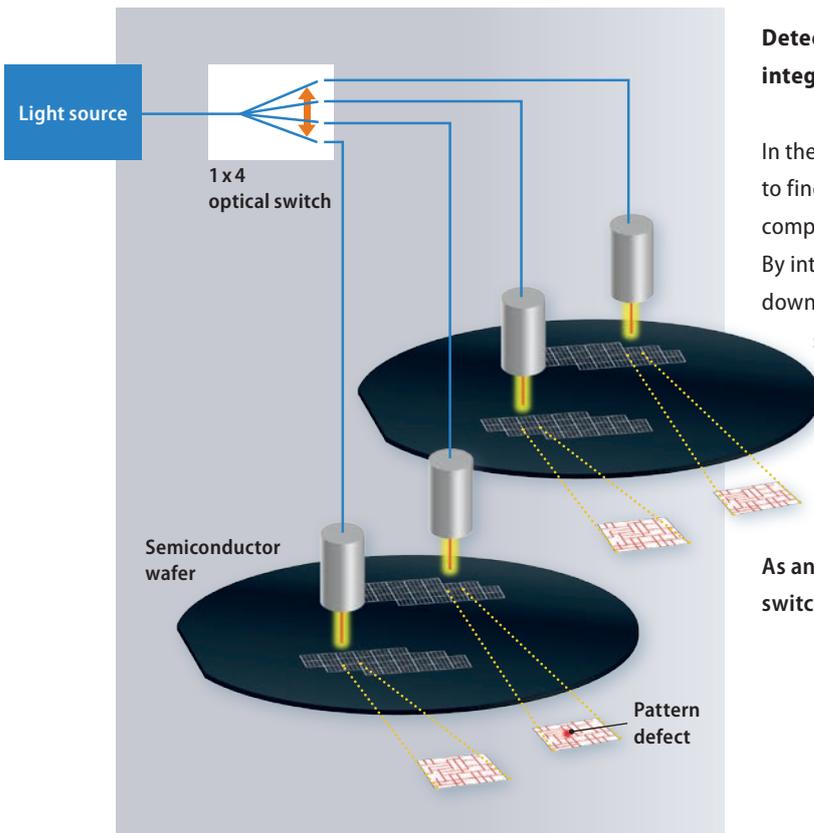


mol 1x16 19" 2 HU



mol 2x4

Pattern defect detection system for semiconductor manufacturing



Detecting pattern defects in semiconductor wafers with integrated 2xN optical switch

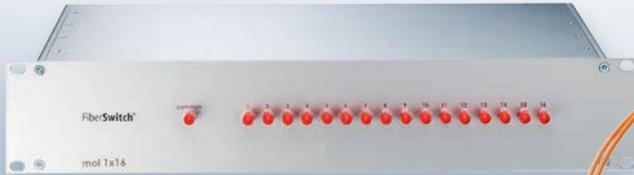
In the semiconductor manufacturing process, optics is applied to find pattern defects. A pattern defect can be detected by comparing the pattern images of each die (integrated circuit). By integrating LEONI 2xN optical switches the system can be downsized and the throughput can be enhanced. LEONI optical switches will be applicable to some enhanced configurations, such as a multiple light source system. LEONI supplies various types of 1xN and 2xN single- & multi-mode switches, i.e. LargeCore fibers up to 800 μm, PM, UV-VIS, VIS-IR and broadband.

As an OEM service partner we can also easily integrate the switch into the final measuring system.

Specifications for Optical Switch

Number of channels	1x2, 1x4, 1x8, 1x12, 1x16, 2x4, 2x8 (2 ports are switched synchronously) → Other channel counts on request
Operating wavelength [nm]	Depending only on fiber characteristics
Switching frequency [s ⁻¹]	≤ 30

Optical switch integrated **defect detection** system for semiconductor manufacturing

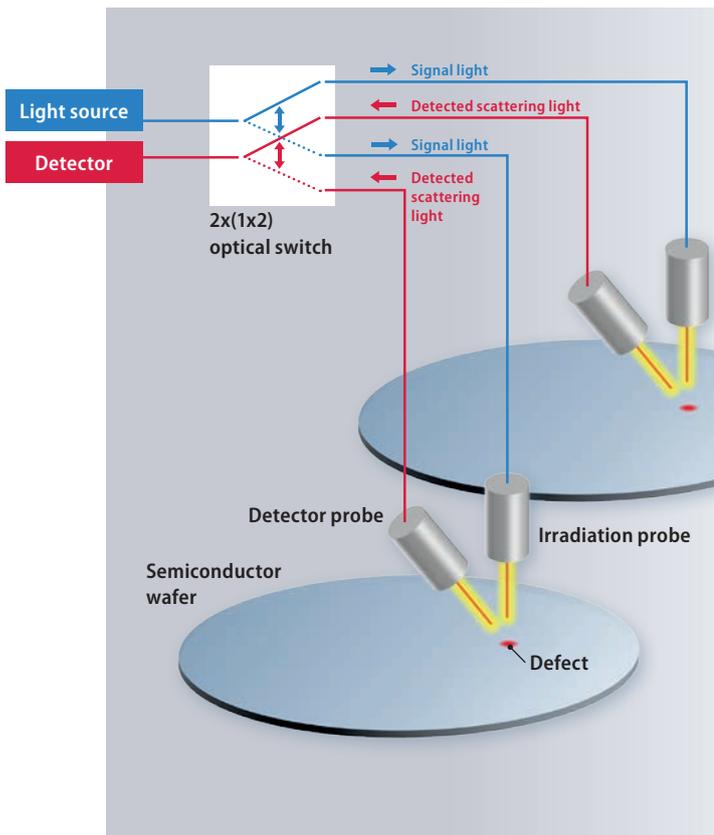


mol 1x16 19" 2 HU



mol 2x4

Defect detection system for semiconductor manufacturing



Detecting defects in semiconductor wafers with integrated 2x(1xN) optical switch

In a semiconductor wafer, defects can be found by detecting scattering light. By integrating LEONI 2xN optical switches, a light source and a detector can be shared. The system can be downsized and the throughput can be enhanced. LEONI optical switches will be applicable to some enhanced configurations, such as a multiple light source system. LEONI supplies various types of single- & multimode switches, i.e. Large-Core fibers up to 800 μm, PM, UV-VIS, VIS-IR and broadband.

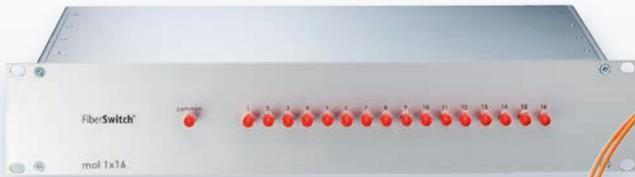
As an OEM service partner we can also easily integrate the switch into the final measuring system.

Specifications for Optical Switch	
Number of channels	1x2, 1x4, 1x8, 1x12, 1x16, 2x4, 2x8 (2 ports are switched synchronously) → Other channel counts on request
Operating wavelength [nm]	Depending only on fiber characteristics
Switching frequency [s ⁻¹]	≤ 30

Optical switch integrated CMP system

for semiconductor manufacturing

CMP >> Chemical Mechanical Polishing

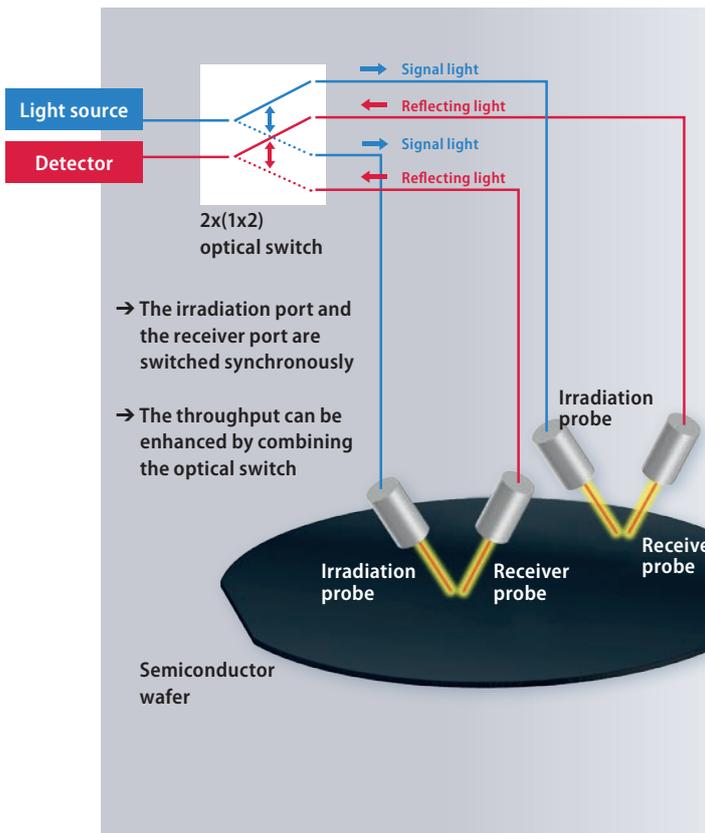


mol 1x16 19" 2 HU



mol 2x4

Chemical Mechanical Polishing system for semiconductor manufacturing



Measurement of semiconductor wafer surface state with integrated 2x(1xN) optical switch

In a CMP (Chemical Mechanical Polishing) process of manufacturing the semiconductor wafer, optical light is applied to measure the actual wafer's surface state. By integrating LEONI's FiberSwitch® 2xN optical switches into the CMP process, the measurement efficiency can be enhanced by the synchronously switching of 2 ports. A light source and a detector can be shared, so the system is downsized. LEONI supplies various types of 1xN and 2xN single- & multimode switches, i.e. Large-Core fibers up to 800 µm, PM, UV-VIS, VIS-IR and broadband.

As an OEM service partner we can also easily integrate the switch into the final measuring system.

Specifications for Optical Switch

Number of channels	1x2, 1x4, 1x8, 1x12, 1x16, 2x4, 2x8 (2 ports are switched synchronously) → Other channel counts on request
Operating wavelength [nm]	Depending only on fiber characteristics
Switching frequency [s ⁻¹]	≤ 30