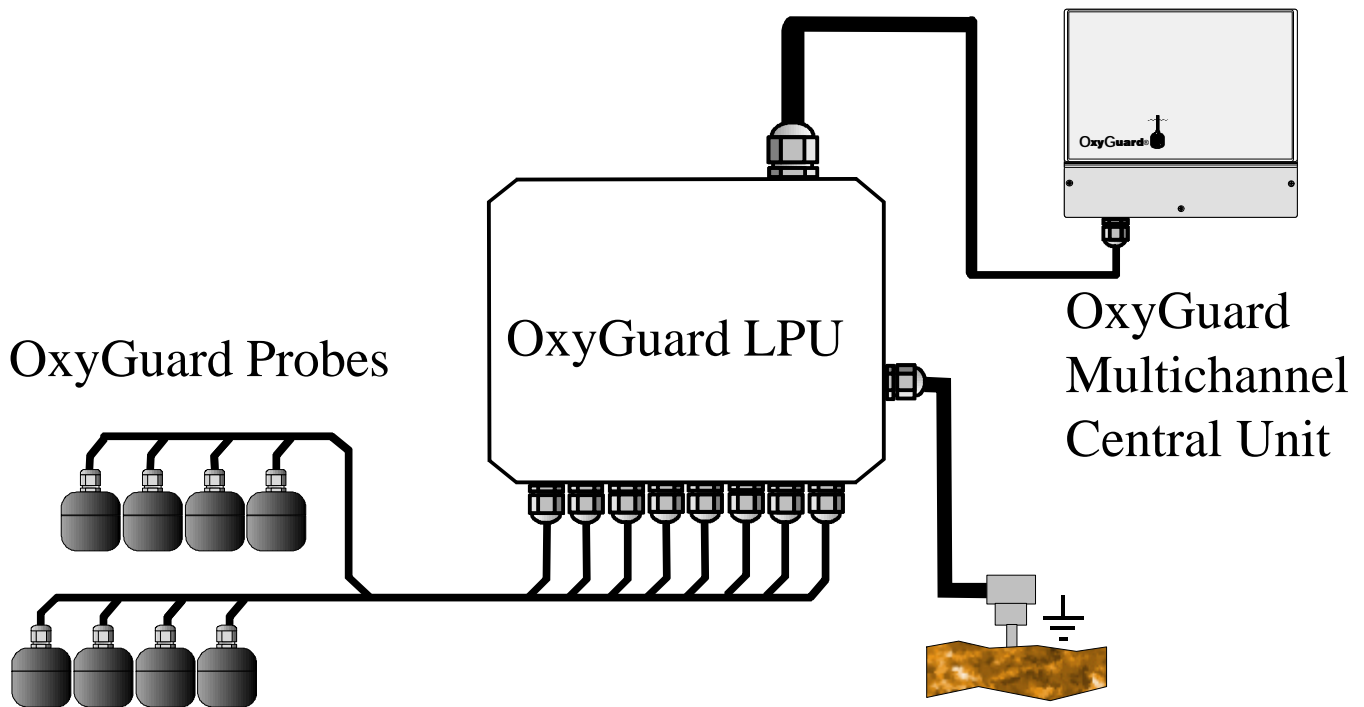


OxyGuard LPU

Lightning Protection Unit



The **OxyGuard Lightning Protection Unit** is a surge suppressor that will prohibit transient surges in the probe leads from damaging transmitters in the central unit.

Nothing can protect equipment from a direct lightning hit, the powers involved are so great. Most of the damage caused by lightning is, however, caused by surges induced in wiring by a nearby lightning discharge. Even sheet lightning between clouds, which accounts for more than half of all lightning discharges, can generate electromagnetic fields strong enough to induce voltages of many thousands of volts in cables. The OxyGuard Lightning Protection Unit is designed to protect OxyGuard multichannel central units from damage should such voltages occur in the probe leads. The OxyGuard LPU gives protection from both lead to ground and lead to lead surges.

Individual probe cables are connected to the OxyGuard LPU, which is then connected to the central unit with a multi-core cable. The OxyGuard LPU must be connected to an effective earth connection, which should also be used to earth the OxyGuard unit. Mains power and other connections should also be protected using suitable equipment, approved by local authorities where relevant.

Versions are available for up to 10 channels. Connection is made as indicated overleaf. Please contact OxyGuard if you use OxyGuard equipment in areas where lightning strikes are frequent.

Technical Information

Technical Advantages

The OxyGuard LPU has three stages of protection with inductances between them. Spark gaps provide the initial limitors, varistors limit surges to 30 V and finally suppressor diodes cut the surge to 9 V. The inductances help prevent surges with extremely fast rise times from inducing harmful voltages in the LPU output before the varistors and suppressor diodes have time to act.

Specifications

Maximum operating signal voltage:	5 V
Normal working voltage:	0-500 mV
Signal bandwidth (-3 dB, 50 ohm)	7.5 kHz
Lead-lead capacitance:	3 nF
lead-ground capacitance:	5 nF
Operating temperature:	-25 to +80°C
Input-output (serial) resistance:	2 ohm
Max surge current (8/20 μs):	20 kA
LPU reaction time:	<1 ns
Max. output voltage:	9 V
Enclosure:	Cast aluminium (silumin), IP 67, 188 x 146 x 88 mm.
Weight:	1,1 kg

Ordering Information

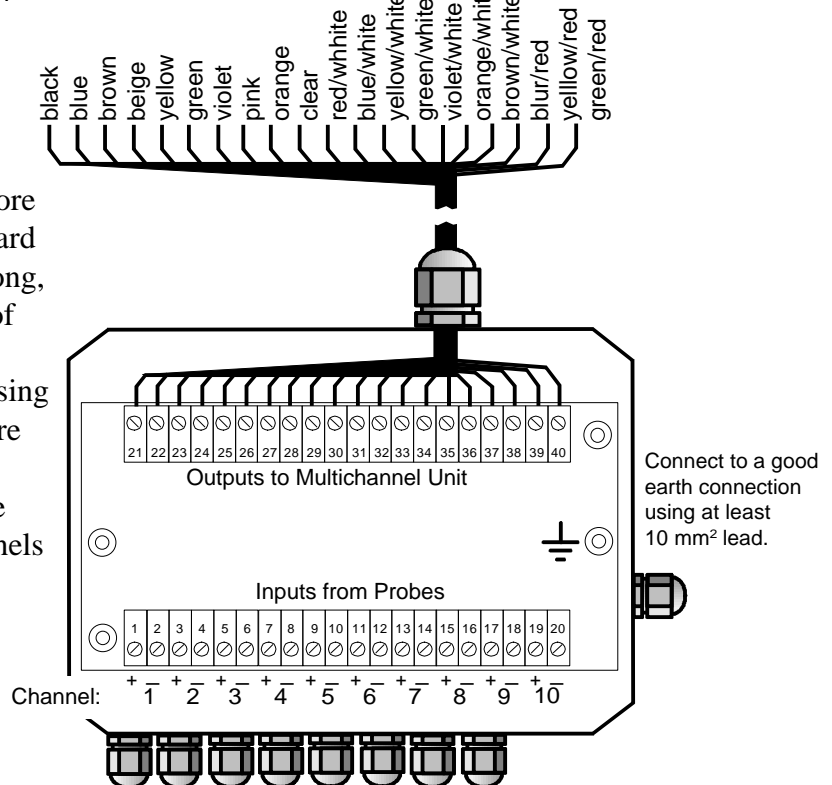
6-channel A046; 8-channel A048; 10-channel A0410.

Connections

To OxyGuard 6 terminal number: 20 21 22 23 24 25 26 27 28 29 30 31

To OxyGuard 8 terminal number: 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

To OxyGuard PLC terminal type: V+ V- V+ V- V+ V- V+ V- V+ V- V+ V- V+ V- V+ V- V+ V-
NB. V+ = terminal from 1 to 64



The OxyGuard LPU is fitted with a multicore cable ready for connection to your OxyGuard multichannel unit. This cable is 3 meters long, and should not be extended. Connect one of the LPU earth terminals at the side of the terminal strip to a good earth connection using heavy gauge copper wire - at least 10 square millimeters (0.15 square inches).

The drawing shows a ten-channel LPU, the units are delivered fitted with from 4 channels as ordered.

Data subject to change without notice

A04 LPU brochure