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# Lightning Current Monitoring Products

*Datasheet*

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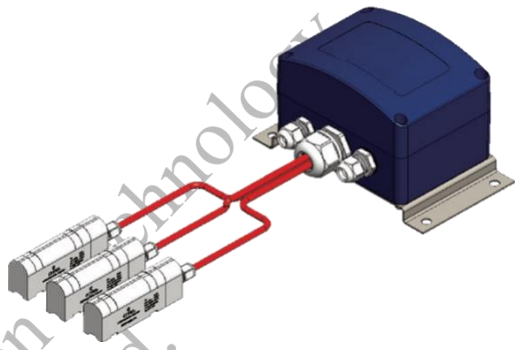
***CN Rev.v1.0.1***

## Product Overview

The IMon-L100 lightning current monitoring data acquisition unit monitors lightning current in the grounding conductor of the installed blade via the coil in the ISen-L701 lightning current monitoring sensor. The induced current is converted into a constant optical signal by the circuit, and then transmitted to the main equipment monitoring unit via optical fiber. Subsequently, the optical signal is converted into an electrical signal through photoelectric conversion, and then input into the CPU via relevant conversion circuits. The CPU calculates, inverts and restores lightning strike information by monitoring the signal, which is then stored in the built-in memory. Lightning strike data can be queried via RS485 communication.





## Main Features

- Wide-range lightning current monitoring: 10 kA ~ 200 kA, complying with Lightning Protection Level LPL I for wind turbines
- Capable of monitoring lightning strike events for three blades separately: lightning current amplitude, blade channel and occurrence time, with signal transmission via optical fiber

- Provides calculated parameters under the first return stroke lightning current waveform (10/350 μs): discharge charge, specific energy, waveform and steepness
- Optical fiber transmission and shielded cables, suitable for strong electromagnetic interference environments
- Waterproof and dustproof design with IP67 protection degree
- Complies with standards including IEC 61400-24 and IEC 62561-6

## Technical Parameters

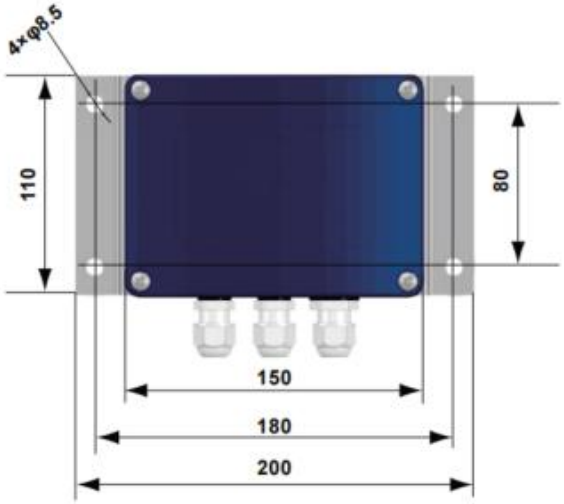
| | | |
|---|---|---|
| Application description | Three ISen-L701 lightning current monitoring sensors are installed at the blade root, transmitting lightning signals to the IMon-L100 via optical cables. | |
| Monitoring parameters | Lightning current amplitude, lightning strike blade channel and occurrence time | |
| | Calculation of charge and specific energy under 10/350 μs waveform | |
| Lightning current monitoring range [10/350 μs] | 10kA～200kA | |
| Measurement error | 50kA~200kA:5%; 10kA~50kA:±3kA | |
| Insulation withstand voltage | 20kV | |
| Lightning acquisition duration | 2s (monitors lightning current amplitude during the first return stroke) | |
| Storage capacity | 1200 lightning records per blade, 3600 records in total | |
| Communication method | RS485 | |
| Communication protocol | Modbus RTU | |
| Power supply | Monitoring unit: wide voltage range 9~36 V DC, max. 3W | |
| | **IMon-L100 lightning current monitoring data acquisition unit** | **ISen-L701 lightning current monitoring sensor** |
| Standard assembly quantity (set) | 1 | 3 |
| Product dimensions | 150*110*98mm | 94*35*22mm |
| Product weight | 1200g | 80g |
| Wiring cables | Power input: 2-core or 3-core shielded cable (standard), φ6.5~10 mm | Sensor: optical fiber, φ2.2 mm, 10m (standard) |
| | Data output: 6-core shielded cable (standard), φ6.5~10 mm | |

| | | |
|---|---|---|
| IP grade | IP67 (sealed housing, epoxy filled) | IP67 (epoxy filled) |
| Operating temperature range | -40℃~+70℃ | -40℃~+70℃ |
| Installation method | Fixed to panel with M8 stainless steel screws (50 mm) | FRB strapping (fiber-reinforced plastic) |
| Housing material | Metal housing | Thermoplastic material, UL94-V0 |
| Vibration environment | Conform to EN60068-2 | |

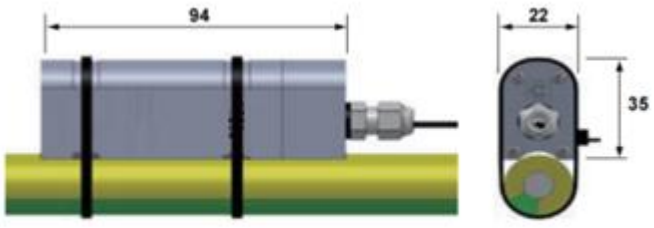
## Product Dimension Diagram

Dimensional drawing:


IMon-L100 (side view)




IMon-L100 (front view)




ISen-L1701 (installation diagram)