

TAMTRON OVERLOAD PROTECTION UNIT (OPU)

Tamtron's Overload Protection Unit (OPU) ensures safe and controlled lifting operations by preventing equipment overloads and structural stress. Designed for cranes, hoists, elevators, lifters, and similar machinery, the OPU stops the lifting motion automatically if the load exceeds the safe limit or becomes stuck. With its compact, DIN-rail compatible design, the OPU is easy to install even in limited space environments, and offers versatile input and output connectivity for seamless integration into various control systems.

Tamtron's Overload Protection Unit provides accurate, real-time supervision of lifting operations, even under challenging industrial conditions. Its rugged and reliable build ensures stable performance and long lifecycle. The system continuously monitors sensor and cable status through automatic diagnostics, ensuring consistent and safe operation. If an overload or unexpected resistance is detected, the lift is automatically stopped before damage occurs.

The OPU records detailed information of any overload event — including date and time — enabling clear reporting, traceability, and data-driven improvement. With the load tracking function, overall stress levels can be monitored over time to support optimized maintenance scheduling and prevent premature wear.

The OPU can also support stability control, helping to prevent machinery from becoming unbalanced. A 4–20 mA signal amplifier is available for integration with PLC systems.

BENEFITS

- ▶ Automatic lifting stop to prevent damage
- ▶ Easy installation on both new and existing equipment
- ▶ Simple calibration and configuration
- ▶ Continuous automatic diagnostics
- ▶ Stores the highest overload score
- ▶ Supports load stress tracking for lifecycle maintenance optimization

ENSURE SAFE LIFTING WITH CONFIDENCE



SPECIFICATIONS

- ▶ Operating voltageAC input: 100–240VAC 50/60Hz 15W
DC input: 10–30VDC 12W
- ▶ Relay outputs3 pcs of SPDT 250 VAC 16A
- ▶ Load cell inputs2 pcs of strain gauge inputs
4/6-wire, excitation voltage 5VDC 90mA max
signal level +/-10mV max
- ▶ AD-converter24-bit delta sigma
- ▶ Analog outputs4-20mA, user programmable level or
0-10V, user programmable level
- ▶ Digital inputs2 pcs of optically isolated 4-30VDC inputs
- ▶ Real time clockReal time clock and calendar with battery backup
- ▶ Load trackingNonvolatime memory for 250 time counters.
Maximum load capture with time stamp
- ▶ ConnectivityUSB-A Flash memory stick, Parameters, Load Tracking
USB-B Firmware update
RS-485 isolated data link for external OPU
RS-232 isolated external display data output
- ▶ Local display20 characters/row, 2 rows, backlight
- ▶ Keyboard5 pcs of push buttons
- ▶ External display6 digits 7-segments red, 125 mm segment height
- ▶ IP classificationIP20
IP66 enclosure available
- ▶ Operating temperature-30°C...+60°C
- ▶ Dimensions104mm x 90mm x 62mm (W x H x D)

OPTIONS

- ▶ Plastic protective case.....Option
- ▶ External display.....Option



SYSTEM FEATURES

- ▶ Suitable for cranes, hoists, elevators, lifters, and gear mechanisms
- ▶ Can be installed on both new equipment and retrofitted to existing machines
- ▶ USB interface for data transfer and firmware updates (event reporting and maintenance use)
- ▶ 4–20 mA current or 0-10V output for PLC system integration
- ▶ Three user-configurable alarm limits
- ▶ Individual monitoring of two load cells
- ▶ Option to monitor the sum of two load cells

ENSURE SAFE LIFTING

LOAD CELLS – STANDARD DELIVERY OR TAILOR-MADE

Load cells are used as a part of the weighing system and to prevent overloading. The high security factor ensures the load cells withstand demanding conditions. We produce both standard load cells as well as customer-specific tailored load cells. Application-specific, tailored products include for example tension load cells, axle load cells, chain load cells, bending load cells and compression load cells.



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Tamtron is a leading supplier of advanced weighing solutions, offering innovative weighing and dosing technologies, comprehensive lifecycle services, and modern cloud-based digital services. Supporting industries such as construction, mining, wood processing, waste management, logistics, and manufacturing, Tamtron operates globally with its headquarters in Finland. The company has a strong presence across Europe through its subsidiaries and worldwide partner network.

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