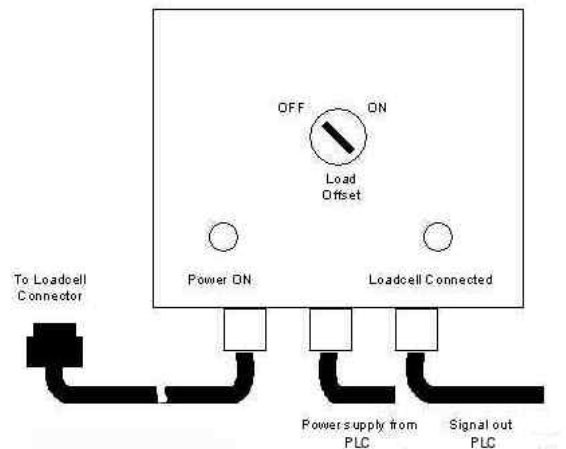




Procon Engineering

(A Division of National Oilwell Varco UK Limited)



LOSCAM (Load Offset & Signal Conditioning Amplifier)

Rugged IP65 stainless steel enclosure

Allows overload trip circuit checks

Interface capability to Data Acquisition Systems

System safe output

Fully isolated 0-5V analogue output

Mains interference rejection filter

24Vdca power supply

Simulation of increased load

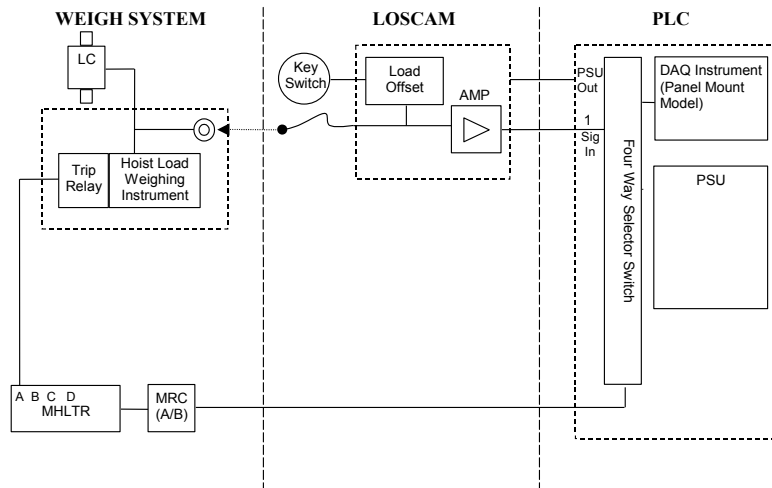
Cranes used for safety critical operation are often fitted with load monitoring systems. These are used to ensure the maximum design limit is never exceeded. Such systems use trips that are present to trigger an alarm or stop the crane lifting gear when the load reaches a pre-set limit (usually some just value above the crane safe working load). To ensure safe operation a crane load-monitoring system must have its calibration and trip alarm operation verified at intervals. The crane load monitor calibration is carried out with the use of a traceable calibration weights. However, although this is no substitute for calibration with traceable weights, this method does have some problems:

1. When using weights, the trip alarm functions can only be verified by taking the crane over its safe-working load.
2. During normal operation (in the absence of calibration weights) there is no way to verify the crane load monitor calibration and trip operation.

These problems may be overcome by employing a separate system that can be used to apply a simulated load to enable verification of calibration and alarm trip functions. This takes the form of the Procon Engineering 'Load Cell Offset Signal Conditioning Amplifier' or LOSCAM. The LOSCAM is able to inject an offset signal (load offset) to simulate the crane lifting a real load. The load offset can be calibrated to exceed the crane SWL to enable load monitor alarm trips to be tested. Additionally, the LOSCAM is able to independently amplify and scale the load monitoring load cell signal to produce an isolated analogue signal suitable for connection to external monitoring data acquisition systems

LOSCAM (Load Offset & Signal Conditioning Amplifier)

Technical Specification Sheet



LOSCAM (LOAD CELL OFFSET AND SIGNAL CONDITIONING AMPLIFICATION MODULE)

LOSCAM electronics printed circuit board assembly and interface terminals are housed in a stainless steel enclosure fitted with EMC GLANDS

The incoming 24Vdc power supply is fully isolated using DC/DC converters that in turn power the amplifier electronics.

The Load cell connected lamp illuminates when the module is plugged in to a trip amplifier load cell socket. The LOSCAM utilises the crane load monitor system load cell excitation and millivolt signal to measure the load and provide the load offset. The analogue output can easily be calibrated to provide an isolated 0-5Vdc weight signal. The enclosure front panel has power on and load cell disconnection indicators. Load offset is controlled by the ON/OFF switch.

INPUT CONNECTIONS

- Load cell Excitation (From the crane load monitoring system)
- Millivolt Signal (From the crane load monitoring load cell or load cells)
- Power supply 24Vdc (Provided by an external supply)

OUTPUT CONNECTIONS

- 0-5v analogue output (optically isolated)
- Load cell disconnected from 24V signal when the LOSCAM is disconnected from the crane monitoring system,.

To prevent the possibility that the LOSCAM could affect the crane load monitor performance, it is recommended that a system is designed such that the LOSCAM is completely isolated during normal crane operation. This may be achieved by connecting incoming load cell excitation and signal through a flying lead fitted with a multi-pin connector. When isolated, the flying lead is plugged into a dummy connector that has the two pins linked to return the 'load cell disconnected' signal. The signal can be used to drive an external relay and used to disable the crane motor when the LOSCAM is in use.

LOSCAM is mounted in a Type STB2 stainless steel box, sealed to IP65, with approximate dimensions of 156mm x 156mm x 95mm – as per Procon Junction Box LA01-003-030. All connections are via glands.

Procon Engineering's policy is one of continuous product enhancement.

We therefore reserve the right to incorporate technical modifications without prior notification. E&OE.

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