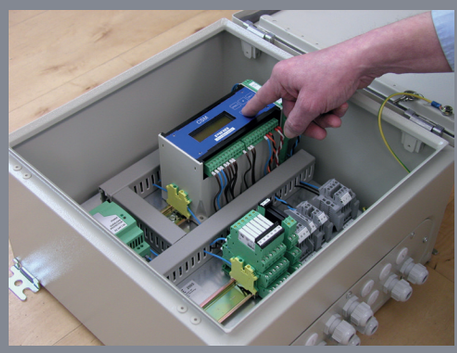
GIGASENSE QUALITY AND SERVICE TAKEN SERIOUSLY

Gigasense CSM Crane Safety Monitor



Gigasense CSM Crane Safety Monitor for your safety and best life cycle economy.

For all industries which operate in harsh environment, where safety and clarity is crucial in the daily work, Gigasense Crane Safety Monitor is much appreciated.

It is designed to give optimal safety in heavy lifting operations and for continuous work in the toughest of industries.

With different options of load cell input and a modular design for as many inputs as needed, Gigasense Crane Safety Monitor solves all your overload protection needs, and has many more valuable functions.

Gigasense Crane Safety Monitor is maintenance free and all settings and programming is made from factory.

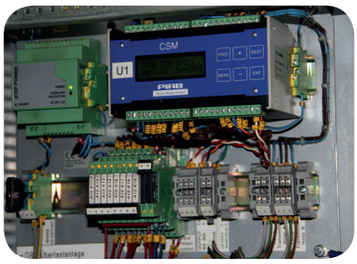
GIGASENSE

Gigasense products within Force Measurement and Crane Safety are well known high quality products, built from many years' experience and used by leading heavy duty industry around the world.

Gigasense products meet the highest demands of performance level requirements.

We are represented by many selected local partners in more than 30 countries on six continents.

CSM Crane Safety Monitor



Technical Data

Operating Voltage:
85-264 V AC, 47-440 Hz or
120-370 VDC.

ENCLOSURE
Dimensions 380x380x210 mm.

PROTECTION CLASS
IP65.

TEMPERATURE RANGE
-20°C to +70°C.

INPUT FORCE TRANSMITTERS
Current signal, 4-20 mA.

LIMIT SETTINGS
Two limit settings for each relay.

Switching capacity 6 A, 250 VAC.
Higher switching capacity can be achieved by installing contactors as an option.

RECORDING OF HOISTING MOVEMENT
Two Inputs: low and high speed.
Voltages: 12 VDC, 24 VDC, 115 VAC or 230 VAC.

OUTPUT
RS 485 serial, can be used for Remote Display or for other purposes.

ANALOGUE OUTPUT
4 - 20 mA

DISPLAY (BUILT IN)
LCD, 2 rows each with 16 alphanumeric characters.

SETTING OF SWITCH LEVELS/ PROGRAMMING
Simply with 6 push buttons at panel.

The modularity gives you the possibility to choose your desired number of inputs and outputs. CSM is built for amplified 4-20 mA transmitter signals. The output are potential free relays, RS485, 4-20 mA, Profibus (option) and USB (option).

This well-proven CSM Crane Safety Monitor is delivered with all settings made from factory, providing you with a cost efficient system.

For the robust, fail-safe construction, CSM is the preferred electronic overload protection system by prominent Steel- and Aluminium works.

Modular Design and Multi-functions

The standard CSM version has ten relay outputs, one 4 - 20 mA output and an RS485 interface suitable for a large format display. In the implementation consisting of one PLC, up to four force transmitters can be connected. Load summation, load differences and alarm limits for the same, certain alarm settings for container handling, slanting load and the like are easily set.

Via the standard 4-20 mA output and the RS485 interface, you can show load on one or even two large format displays or hand held units. Thanks to the CSM modular design, further 4-20mA outputs can be added, if needed.

With Profibus, operating data is transferred to other systems, such as your laptop or different brands of crane electronics.

The 4-20 mA output can be transferred via a cable to the receiver on the crane, for use with radio remote controls.

CSM provides excellent flexibility in hardware and software. As many PLC modules as required can be added. More lifts, that is more input from further force transmitters, can be added. With this modularity, there is no need to buy a completely new system when conditions change.

Your CSM will monitor load, overload, information about when due for service, and will give alarms when alarm limits are passed. These alarms are also saved to look up after operation.

The back lit integrated display of the module is easy to read, and you reach both logged data and limit values by push buttons.

Load Time Registration made easy

Registration of load optimizes and often prolongs the life time of the crane. With the CSM installed, manual load time registering is no longer necessary. CSM thereby saves precious man hours.

CSM Load Time Registration is made according to the European standard FEM9511 and FEM9755.

With CSM, you easily follow up on events during operation, such as overload, misuse, time left to service and more. By push buttons all data is accessible. CSM will help you find out if some personnel requires more training on the connected cranes.

Process-crane operators, whos work it is to collect all data from the crane, will enjoy the data storage with information about lifting time, load, number of lifts, peak load value, total lifting time and much more information which is automatically stored by this advanced electronic overload system.

As an option, data can be downloaded via USB.

GIGASENSE
producer of PIAB

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User Friendly Operation

CSM provides a very user friendly operation. Re-programming, change of alarm limits and readout of values is always possible. No tools nor PC is needed for readout or change of settings; the handling of Gigasense Crane Safety Monitor is very straight forward.

Customers who are used to working with different brands of electronic units, value the easy ways of failure diagnosis in CSM and the way in which change of settings must be confirmed, which avoids hasty, wrong settings.

The CSM functions are also made specifically for cranes; thereby you will not need to scroll through many irrelevant settings nor features that you do not need.

Fail Safe and Robust

In Gigasense Crane Safety Monitor, you make all settings by using only six well defined push buttons. All data is easily accessible, but for change of settings, you must know the safety code.

Each change of alarm limits and similar values must be confirmed by a longer button push. CSM will notice if an alarm value is out of range and acknowledge you. This product will not allow strange settings; CSM is a fail safe overload protection system.

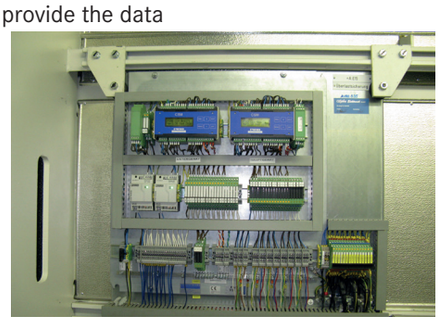
With Safety Protection class IP65, CSM works in dusty and moist environment as well as outside. The operation temperature range is the full -20°C to +70°C. The CSM withstands heat and intense, violent vibrations. We know this from satisfied customers' decades of operation in heavy duty environment.

Gigasense Crane Safety Monitor has been in operation in heavy duty industry since 1998; the first installed systems still work without complaint. Most of the 600 units in operation are installed in Steel Works, Aluminum Works and in Harbours

With the robust CSM software, you cannot by mistake change settings to receive a dangerous situation; the system will notice if a setting is out of line. CSM has been called "the Benz" of overload protection, and the robust construction is considered parable to that of “Pansar Wagons”.

Ready for operation

Gigasense CSM is delivered programmed and calibrated, ready for installation. You provide the data for settings, such as SWL, desired alarm limits and other settings you require; we deliver your Crane Safety system already set. This Plug and play -philosophy of Gigasense saves installation time and money.



The CSM software provides a vast variety of customized alarm settings and calculations such as for container lifting with alarms for any load slanting or for angled lifting operations. Among other transmitters, you can have an angle transducer as input and alarm limits depending on this. The alarms are set in percentage (%) of SWL, why a change in crane capacity is easily handled.

All alarm limits, settings and programming are included in the product. By commissioning, supply voltage and a known test weight lift is all that is needed. A rough calibration has already been done in our factory, all to facilitate your work on site.

The cabinet provides IP65 protection class; this system is both dust proof and water proof, made for installation in heavy duty industries all over the world, as well as for outside operation.

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CSM Crane Safety Monitor

Cost efficiency at its best

The Mean Time To Dangerous Failure for Gigasense Crane Safety Monitor is over 90 years and the system is designed to be entirely maintenance free.

Order a complete system from us, including force transmitters, amplifiers, the CSM electronics and large format displays; we take responsibility for the complete system. We are system providers and as many settings as possible are made from factory.

We dare to say that with these robust complete systems, we provide you with the best product life cycle economy of overload protection. We like to think of our CSM as the diesel engine of heavy lifting electronics. With proven technology, all sudden, unnecessary stops in production are avoided.

When it is time to exchange one system, or to add systems for further cranes, it is good for you to know that Gigasense keeps a log of all delivered systems. Therefore an exchange unit with the same configuration and settings can be delivered at short notice.

We keep all documentation, which enables our professional support and also makes it possible for you to require copies. Gigasense products in Crane safety and Force Measurement are well known and appreciated since 1951.

Try our high quality Swedish products and you will notice the difference.

Gigasense, the preferred supplier

At Gigasense, we live by Quality and Service Taken Seriously. This has taken us to the top position within Crane Safety and Force Measurement, and customers prescribe our systems and products.

CSM is the overload protection standard by worldwide Steel and Aluminum works.

Gigasense AB, is an ISO 9001 certified Swedish company with products invented, developed and produced in Sweden. We give first class service. We are personal and professional.

Redundant Gigasense Crane Safety systeM , PLd, Cat 3

Gigasense herewith declares that the machinery CSM 8:64x Crane Safety Monitor fulfils Cat 3 and Performance Level d. (PLd) as a redundant, electronic overload protection for lifting operations.

CSM electronic overload protection for redundant use, is in conformity with all relevant provisions of ordinances in Machinery directive 2006/42/EC, and ISO EN 13849-1/2.

Some of our largest customers, world leading Steel- and Aluminum works in Europe, need this Category 3, PLd redundant crane safety solution for the transport of liquid metal in their manufacturing process.

Category 3 and PLd redundant overload protection is also required on automatic cranes and cranes in Nuclear power plants.

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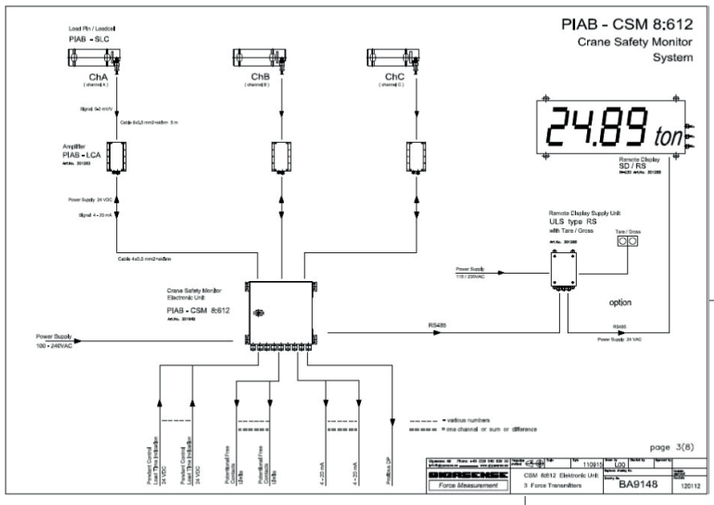
CSM adapted to your choice, also for special applications

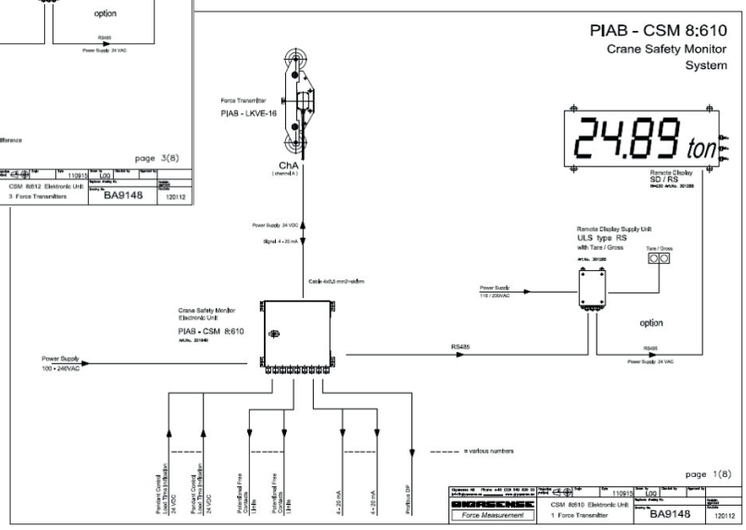
Gigasense CSM is used in a wide variety of applications. We connect CSM to Angle Transducers in cranes, Container Handling Cranes, for the safe transport of molten metal and more. Try us! We make the programming for you, also for angle transducers and outreach, and take responsibility for the complete system. We at Gigasense AB and our partners around the world are known to be available when you need support.

In the USA, we have an example of how CSM reduces production time at Logan Aluminium. CSM detects slack rope and the load can be released earlier compared to visual limits. The Load difference limit of CSM detects if there is unbalance and thereby a faster re-lift can be performed.

In the metal industry lifting operations, several specific alarm limits are often required. With CSM, the modular design will give you as many alarm limits as you like. Each CSM Crane Safety Monitor PLC provides 10 potential free relays for the crane operation. An example: the customer is filling a hot bucket of Steel. The crane operator wants to register at 60%, 80%, 90%, and overload of 110% of the nominal capacity of the crane or of the expected weight of molten Steel. At 80%, the filling must slow down and from 90% be very slow. All these relay signals are safely handled by Gigasense CSM, and connected to the crane control system .

Gigasense CSM is often used for container handling. The individual load in each corner of a container is registered by Gigasense LKVE Force Transmitter, or by other force transmitters providing 4-20 mA input to CSM. The settings are made in our factory. In CSM, each load is registered and a summation is made, for the four container corner loads. We also give relay signals when the differences between the forces are too large, which cause alarms if the container is not straight or equally packed / filled. All combinations are possible to compare. CSM relay limits are set in % of the total weight, why a change in lifting capacity or a different payload is easily made.





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