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## **Crane Scale Load Cell**

#### **FEATURES**

- Capacity: 1.5 t to 30 t
- Alloy steel construction
- Integrated overload protection for both tension and compression loading
- Direct mounting of weight indicator
- IP67 protection

## **APPLICATIONS**

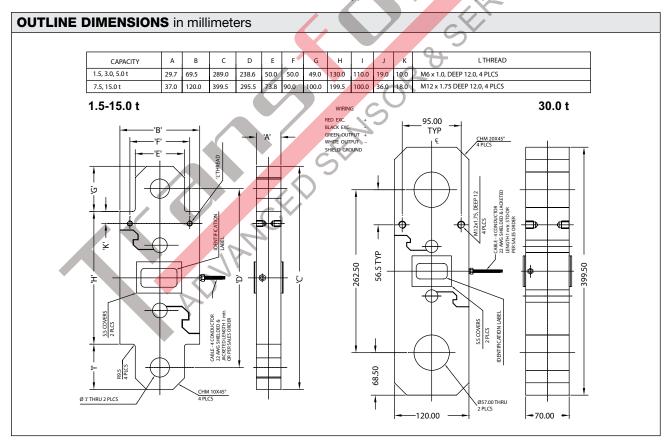
- · Crane scales
- Hanging scales

#### **DESCRIPTION**

Model 91002 is an alloy steel shear beam load cell designed for crane scale and hanging scale applications. The load cell design features integrated overload protection for both tension and compression loading with a rated output of 1.5 mV/V.



Model 91002 is supplied with a Teflon cable which makes the load cell ideal for harsh environments. The design also allows for direct mounting of the weight indicator which is typical for crane scale applications.



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## Crane Scale Load Cell

PARAMETER	1.5 mV/V 5 ±% FSO 1 ±% FSO 3.0050 ±% FSO <0.050 ±% FSO <0.030 ±% FSO <0.020 ±% FSO <0.020 ±% FSO <0.020 ±% FSO <0.020 ±% FSO <0.002 ±% FSO <0.002 ±% FSO <0.001 ± %/°C -20 to +70 °C 150 % FSO 300 % FSO 300 % FSO 10 VDC 15 VDC 360-450 Ω 349-355 Ω Alloy steel with electroless nickel-plated IP67			
Rated output tolerance         5         ±% FSO           Zero balance         1         ±% FSO           Combined error         <0.050         ±% FSO           Non-linearity         <0.030         ±% FSO           Hysteresis         <0.020         ±% FSO           Non-repeatability         <0.020         ±% FSO           Creep error (30 minutes)         <0.020         ±% FSO           Temperature effect on zero         <0.002         ± %/°C           Temperature effect on output         0.001         ± %/°C           Operating temperature range         -20 to +70         °C           Maximum safe central overload         150         % FSO           Ultimate central overload         300         % FSO           Excitation, recommended         10         VDC           Excitation, maximum         15         VDC           Input impedance         360-450         Ω           Output impedance         349-355         Ω           Insulation resistance at 50 VDC         >1000         MΩ           Material         Alloy steel with electroless nickel-plated           Environmental protection         IP67	5 ±% FSO 1 ±% FSO    1 ±% FSO   <0.050 ±% FSO   <0.030 ±% FSO   <0.020 ±% FSO   <0.020 ±% FSO   <0.020 ±% FSO   <0.002 ±% FSO   <0.002 ±%/°C   0.001 ±%/°C   -20 to +70 °C   150 % FSO   300 % FSO   10 VDC   15 VDC   360-450 Ω   349-355 Ω   >1000 MΩ   Alloy steel with electroless nickel-plated IP67	PARAMETER	VALUE	UNIT
Zero balance       1       ±% FSO         Combined error       <0.050       ±% FSO         Non-linearity       <0.030       ±% FSO         Hysteresis       <0.020       ±% FSO         Non-repeatability       <0.020       ±% FSO         Creep error (30 minutes)       <0.020       ±% FSO         Temperature effect on zero       <0.002       ±% °C         Temperature effect on output       0.001       ±% °C         Operating temperature range       -20 to +70       °C         Maximum safe central overload       300       % FSO         Ultimate central overload       300       % FSO         Excitation, recommended       10       VDC         Excitation, maximum       15       VDC         Input impedance       360-450       Ω         Output impedance       349-355       Ω         Insulation resistance at 50 VDC       >1000       MΩ         Material       Alloy steel with electroless nickel-plated         Environmental protection       IP67	1 ±% FSO <0.050 ± % FSO <0.030 ± % FSO <0.020 ± % FSO <0.020 ± % FSO <0.020 ± % FSO <0.020 ± % FSO <0.002 ± % FSO <0.002 ± %/°C  0.001 ± %/°C  -20 to +70 °C  150 % FSO 300 % FSO 10 VDC 15 VDC 360-450 Ω 349-355 Ω >1000 ΜΩ  Alloy steel with electroless nickel-plated IP67	Rated output—R.O.	1.5	mV/V
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<0.050       ±% FSO         <0.030       ±% FSO         <0.020       ±% FSO         <0.020       ±% FSO         <0.002       ±%/°C         0.001       ± %/°C         -20 to +70       °C         150       % FSO         300       % FSO         10       VDC         360-450       Ω         349-355       Ω         >1000       MΩ         Alloy steel with electroless nickel-plated       IP67	Rated output tolerance	5	±% FSO
Non-linearity	<0.030       ±% FSO         <0.020       ±% FSO         <0.020       ±% FSO         <0.002       ±% FSO         <0.001       ± %/°C         -20 to +70       °C         150       % FSO         300       % FSO         10       VDC         15       VDC         360-450       Ω         349-355       Ω         >1000       MΩ         Alloy steel with electroless nickel-plated         IP67	Zero balance	1	±% FSO
Hysteresis<0.020	<0.020       ±% FSO         <0.020       ±% FSO         <0.002       ±% FSO         <0.001       ± %/°C         -20 to +70       °C         150       % FSO         300       % FSO         10       VDC         15       VDC         360-450       Ω         349-355       Ω         >1000       MΩ         Alloy steel with electroless nickel-plated       IP67	Combined error	<0.050	±% FSO
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<0.020       ±% FSO         <0.002       ±% FSO         <0.001       ± %/°C         -20 to +70       °C         150       % FSO         300       % FSO         10       VDC         15       VDC         360-450       Ω         349-355       Ω         >1000       MΩ         Alloy steel with electroless nickel-plated         IP67	Non-linearity	<0.030	±% FSO
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<0.020       ±% FSO         <0.002       ± %/°C         0.001       ± %/°C         -20 to +70       °C         150       % FSO         300       % FSO         10       VDC         15       VDC         360-450       Ω         349-355       Ω         >1000       MΩ         Alloy steel with electroless nickel-plated         IP67	Hysteresis	<0.020	±% FSO
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Non-repeatability	<0.020	±% FSO
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.001       ± %/°C         -20 to +70       °C         150       % FSO         300       % FSO         10       VDC         15       VDC         360-450       Ω         349-355       Ω         >1000       MΩ         Alloy steel with electroless nickel-plated         IP67	Creep error (30 minutes)	<0.020	±% FSO
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	-20 to +70 °C 150 % FSO 300 % FSO 10 VDC 15 VDC 360-450 Ω 349-355 Ω >1000 MΩ  Alloy steel with electroless nickel-plated IP67	Temperature effect on zero	<0.002	± %/°C
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	150	Temperature effect on output	0.001	± %/°C
	300 % FSO  10 VDC  15 VDC  360-450 Ω  349-355 Ω  >1000 ΜΩ  Alloy steel with electroless nickel-plated  IP67	Operating temperature range	-20 to +70	°C
	10 VDC 15 VDC 360-450 Ω 349-355 Ω >1000 MΩ  Alloy steel with electroless nickel-plated IP67	Maximum safe central overload	150	
	$\begin{array}{c} 15 & \text{VDC} \\ 360-450 & \Omega \\ 349-355 & \Omega \\ \hline >1000 & \text{M}\Omega \\ \\ \text{Alloy steel with electroless nickel-plated} \\ \hline \text{IP67} \\ \end{array}$	Ultimate central overload	300	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 360-450 & \Omega \\ 349-355 & \Omega \\ \hline >1000 & M\Omega \\ \\ \text{Alloy steel with electroless nickel-plated} \\ \hline \text{IP67} \\ \end{array}$	Excitation, recommended	10	VDC VDC
$\begin{array}{c c} \textbf{Output impedance} & 349-355 & \Omega \\ \textbf{Insulation resistance at 50 VDC} & >1000 & M\Omega \\ \textbf{Material} & \text{Alloy steel with electroless nickel-plated} \\ \textbf{Environmental protection} & \textbf{IP67} \\ \end{array}$	349–355 Ω >1000 MΩ  Alloy steel with electroless nickel-plated  IP67	Excitation, maximum	15	VDC
Insulation resistance at 50 VDC     >1000     MΩ       Material     Alloy steel with electroless nickel-plated       Environmental protection     IP67	>1000 MΩ  Alloy steel with electroless nickel-plated  IP67	Input impedance	360–450	Ω
Material Alloy steel with electroless nickel-plated Environmental protection IP67	Alloy steel with electroless nickel-plated IP67	Output impedance	349–355	Ω
Environmental protection IP67	IP67	Insulation resistance at 50 VDC	>1000	ΜΩ
		Material		9
All specifications subject to change without notice.	thout notice.	Environmental protection	IP67	<del>)</del>
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