## Tedea-Huntleigh



# **Tension Compression Load Cell**



#### FEATURES

- · Capacities 50 500kg
- Anodized aluminum construction
- OIML R60 approved
- IP67 protection
- For use in tension or compression
- 6 wire (sense) circuit

#### **OPTIONAL FEATURE**

• EEx ia IIC T4 hazardous area approval

#### DESCRIPTION

Model 614 is a tension-compression load cell. Humidity resistant coating and shielded cables enable this load cell to be used in harsh environments while maintaining its operating specifications.

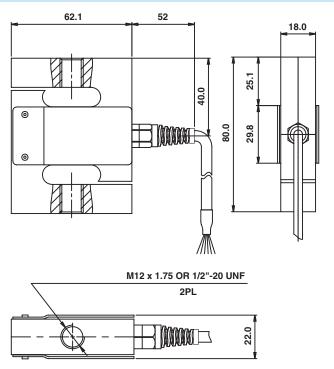
The additional sense wires compensate for changes in lead resistance due to temperature change and/or cable extension. Ideally suited for lever conversions, hanging scales, force measurement and a wide range of other industrial applications.

Model 614 is made from aluminum.

### APPLICATIONS

- Hopper (Tank weighing)
- Hybrid scales
- Belt weighing
- · Lever arm conversions
- Material testing machines
- Vibrations filling equipment
- Dynamometers

#### OUTLINE DIMENSIONS in mm



All dimensions in mm



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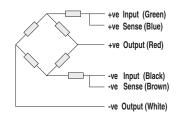
### **SPECIFICATIONS**

PARAMETERVALUEUNITRated capacity-R.C. (Emax)Non-ApprovedC3 ·kgAccuracy classNon-ApprovedC3 ·KgMaximum no. of intervals (n)10003000CMaximum no. of intervals (n)2500800012000**Rated output-R.O.2.0mV/VRated output tolerance0.2±mV/VZero balance0.017±% of rated outputZero Return, 30 min.0.050.017±% of rated outputTemperature effect on zero0.010.0023±% of rated outputTemperature effect on zero0.010.0012±% of rated outputTemperature effect on output0.0030.0012±% of rated outputTemperature range, compensated-10 to +40°CTemperature range, safe-30 to +70% of R.C.Ultimate central overload300% of R.C.Input impedance300Vdc or Vac rmsExcitation, recommended10Vdc or Vac rmsInput impedance350±3OhmsOutput impedance3.0mCable length3.0mCable length3.0mCable length6 kire, braided PVC, dual floating screenStandardConstructionPlated (Anodize) aluminumStandardEnvironmental protectionPlated (Anodize) aluminumStandard					
Accuracy classNon-ApprovedC3*Maximum no. of intervals (n)10003000Y = Emax/Vmin2500800012000**Rated output-R.O.2.0mV/VRated output tolerance0.2±mV/VZero balance0.02±mV/VZero Return, 30 min.0.050.017±% of applied loadTotal Error (per OIML R60)0.050.020±% of rated output/°CTemperature effect on zero0.010.0023±% of rated output/°CTemperature effect on output0.0030.0012±% of load/°CTemperature range, compensated-10 to +40°CTemperature range, safe-30 to +70°CMaximum safe central overload150% of R.C.Ultimate central overload10Vdc or Vac rmsExcitation, maximum15Vdc or Vac rmsInput impedance350±3OhmsOutput impedance>2000Mega-OhmsCable length3.0mCable length3.0mConstructionPlated (Anodize) aluminumStandard	PARAMETER	VALUE			UNIT
Maximum no. of intervals (n)     1000     3000       Y = E <sub>max</sub> /V <sub>min</sub> 2500     8000     12000**       Rated output-R.O.     2.0     mV/V       Rated output tolerance     0.2     ±mV/V       Zero balance     0.02     ±mV/V       Zero Return, 30 min.     0.05     0.017     ±% of applied load       Total Error (per OIML R60)     0.05     0.020     ±% of rated output/°C       Temperature effect on zero     0.01     0.0023     ±% of load/°C       Temperature effect on output     0.003     0.0012     ±% of load/°C       Temperature range, compensated     -10 to +40     °C       Temperature range, safe     -30 to +70     °C       Maximum safe central overload     150     % of R.C.       Ultimate central overload     10     Vdc or Vac rms       Input impedance     350±3     Ohms       Output impedance     >2000     Mega-Ohms       Insulation resistance     >2000     Mega-Ohms       Cable type     6 wire, braided PVC, dual floating screen     Standard	Rated capacity-R.C. (E <sub>max</sub> )	50, 100, 150, 200, 300, 500			kg
Y = E <sub>max</sub> /V <sub>min</sub> 2500     8000     12000**       Rated output-R.O.     2.0     mV/V       Rated output tolerance     0.2     ±mV/V       Zero balance     0.02     ±mV/V       Zero Return, 30 min.     0.05     0.017     ±% of applied load       Total Error (per OIML R60)     0.05     0.020     ±% of rated output       Temperature effect on zero     0.01     0.0023     ±% of rated output       Temperature effect on zero     0.01     0.0023     ±% of load/°C       Temperature effect on output     0.003     0.0012     ±% of load/°C       Temperature range, compensated     -10 to +40     °C       Temperature range, safe     -30 to +70     °C       Maximum safe central overload     150     % of R.C.       Ultimate central overload     150     Vdc or Vac rms       Excitation, maximum     15     Vdc or Vac rms       Input impedance     300     Mega-Ohms       Insulation resistance     >2000     Mega-Ohms       Cable length     3.0     m       Gable type     6 wire, bra	Accuracy class	Non-Approved	C3*		
Rated output-R.O.2.0mV/VRated output tolerance0.2±mV/VZero balance0.050.017±% of applied loadTotal Error (per OIML R60)0.050.020±% of rated outputTemperature effect on zero0.010.0023±% of rated output/°CTemperature effect on output0.0030.0012±% of load/°CTemperature effect on output0.0030.0012±% of RC.Temperature range, compensated-10 to +40°CTemperature range, safe-30 to +70°CMaximum safe central overload150% of R.C.Ultimate central overload10Vdc or Vac rmsInput impedance415±15OhmsOutput impedance350±3OhmsInsulation resistance>2000Mega-OhmsCable type6 wire, braided PVC, dual floating screenStandard	Maximum no. of intervals (n)	1000	3000		
Rated output tolerance   0.2   ±mV/V     Zero balance   0.02   ±mV/V     Zero Return, 30 min.   0.05   0.017   ±% of applied load     Total Error (per OIML R60)   0.05   0.020   ±% of rated output     Temperature effect on zero   0.01   0.0023   ±% of rated output/°C     Temperature effect on output   0.003   0.0012   ±% of load/°C     Temperature range, compensated   -10 to +40   °C     Temperature range, safe   -30 to +70   °C     Maximum safe central overload   150   % of R.C.     Ultimate central overload   300   % of R.C.     Excitation, recommended   10   Vdc or Vac rms     Input impedance   350±3   Ohms     Output impedance   350±3   Ohms     Insulation resistance   >2000   Mega-Ohms     Cable type   6 wire, braided PVC, dual floating screen   Standard	Y = E <sub>max</sub> /V <sub>min</sub>	2500	8000	12000**	
Zero balance0.02±mV/VZero Return, 30 min.0.050.017±% of applied loadTotal Error (per OIML R60)0.050.020±% of rated outputTemperature effect on zero0.010.0023±% of rated output/°CTemperature effect on output0.0030.0012±% of load/°CTemperature range, compensated-10 to +40°CTemperature range, safe-30 to +70°CMaximum safe central overload150% of R.C.Ultimate central overload10Vdc or Vac rmsExcitation, recommended10Vdc or Vac rmsInput impedance350±3OhmsOutput impedance3.0mCable length3.0mCable type6 wire, braided PVC, dual floating screenStandard	Rated output-R.O.	2.0			mV/V
Zero Return, 30 min.0.050.017±% of applied loadTotal Error (per OIML R60)0.050.020±% of rated outputTemperature effect on zero0.010.0023±% of rated output/°CTemperature effect on output0.0030.0012±% of load/°CTemperature range, compensated-10 to +40°CTemperature range, safe-30 to +70°CMaximum safe central overload150% of R.C.Ultimate central overload10Vdc or Vac rmsExcitation, recommended10Vdc or Vac rmsInput impedance350±3OhmsOutput impedance350±3OhmsInsulation resistance>2000Mega-OhmsCable length3.0mConstructionPlated (Anodize) aluminumStandard	Rated output tolerance	0.2			±mV/V
Total Error (per OIML R60)0.050.020±% of rated outputTemperature effect on zero0.010.0023±% of rated output/°CTemperature effect on output0.0030.0012±% of load/°CTemperature range, compensated-10 to +40°CTemperature range, safe-30 to +70°CMaximum safe central overload150% of R.C.Ultimate central overload10Vdc or Vac rmsExcitation, recommended10Vdc or Vac rmsInput impedance415±15OhmsOutput impedance300Mega-OhmsCable length3.0mCable length3.0mConstructionPlated (Anodize) aluminumStandard	Zero balance	0.02			±mV/V
Temperature effect on zero0.010.0023±% of rated output/°CTemperature effect on output0.0030.0012±% of load/°CTemperature range, compensated-10 to +40°CTemperature range, safe-30 to +70°CMaximum safe central overload150% of R.C.Ultimate central overload300% of R.C.Excitation, recommended10Vdc or Vac rmsInput impedance415±15OhmsOutput impedance350±3OhmsInsulation resistance>2000Mega-OhmsCable length3.0mCable type6 wire, braided PVC, dual floating screenStandard	Zero Return, 30 min.	0.05	0.017		±% of applied load
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Temperature range, compensated-10 to +40°CTemperature range, safe-30 to +70°CMaximum safe central overload150% of R.C.Ultimate central overload300% of R.C.Excitation, recommended10Vdc or Vac rmsExcitation, maximum15Vdc or Vac rmsInput impedance415±15OhmsOutput impedance300±33OhmsInsulation resistance>2000Mega-OhmsCable length3.0mCable type6 wire, braided PVC, dual floating screenStandardConstructionPlated (Anodize) aluminumStandard	Temperature effect on zero	0.01	0.0023		±% of rated output/°C
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Maximum safe central overload150% of R.C.Ultimate central overload300% of R.C.Excitation, recommended10Vdc or Vac rmsExcitation, maximum15Vdc or Vac rmsInput impedance415±15OhmsOutput impedance350±3OhmsInsulation resistance>2000Mega-OhmsCable length3.0mCable type6 wire, braided PVC, dual floating screenStandardConstructionPlated (Anodize) aluminumStandard	Temperature range, compensated	-10 to +40			°C
Ultimate central overload300% of R.C.Excitation, recommended10Vdc or Vac rmsExcitation, maximum15Vdc or Vac rmsInput impedance415±15OhmsOutput impedance350±3OhmsInsulation resistance>2000Mega-OhmsCable length3.0mCable type6 wire, braided PVC, dual floating screenStandardConstructionPlated (Anodize) aluminumCable type	Temperature range, safe	-30 to +70			°C
Excitation, recommended10Vdc or Vac rmsExcitation, maximum10Vdc or Vac rmsInput impedance415±15OhmsOutput impedance350±3OhmsInsulation resistance>2000Mega-OhmsCable length3.0mCable type6 wire, braided PVC, dual floating screenStandardConstructionPlated (Anodize) aluminumCable type	Maximum safe central overload	150			% of R.C.
Excitation, maximum15Vdc or Vac rmsInput impedance415±15OhmsOutput impedance350±3OhmsInsulation resistance>2000Mega-OhmsCable length3.0mCable type6 wire, braided PVC, dual floating screenStandardConstructionPlated (Anodize) aluminumStandard	Ultimate central overload	300			% of R.C.
Input impedance415±15OhmsOutput impedance350±3OhmsInsulation resistance>2000Mega-OhmsCable length3.0mCable type6 wire, braided PVC, dual floating screenStandardConstructionPlated (Anodize) aluminumCable type	Excitation, recommended	10			Vdc or Vac rms
Output impedance     350±3     Ohms       Insulation resistance     >2000     Mega-Ohms       Cable length     3.0     m       Cable type     6 wire, braided PVC, dual floating screen     Standard       Construction     Plated (Anodize) aluminum	Excitation, maximum	15			Vdc or Vac rms
Insulation resistance     >2000     Mega-Ohms       Cable length     3.0     m       Cable type     6 wire, braided PVC, dual floating screen     Standard       Construction     Plated (Anodize) aluminum     Standard	Input impedance	415±15			Ohms
Cable length 3.0 m   Cable type 6 wire, braided PVC, dual floating screen Standard   Construction Plated (Anodize) aluminum	Output impedance	350±3			Ohms
Cable type     6 wire, braided PVC, dual floating screen     Standard       Construction     Plated (Anodize) aluminum     Standard	Insulation resistance	>2000			Mega-Ohms
Construction Plated (Anodize) aluminum	Cable length	3.0			m
	Cable type	6 wire, braided PVC, dual floating screen			Standard
Environmental protection IP67	Construction	Plated (Anodize) aluminum			
	Environmental protection	IP67			

\* 50% utilization

\*\* Y=8000 for capacities 50-200kg. Y=12000 for capacities 300-500kg

#### Wiring Schematic Diagram (Balanced bridge configuration)





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