

GD0375-V2 thru GD4000-V2

Wireless Line Riding Tensiometer and Rope Payout Sensor

Features

- All stainless frame and hardware treated 4140 steel sheaves and fully sealed bearings.
- Wire rope dimensions from 3/8" (9.5mm) to 4" (102mm) diameter
- Single line capacity up to 450,000 lb (250 000 kg)
- Load reading precision: +/-2% of rope capacity
- Rope payout resolution: 1" (25.4 mm)
- Optimized for crane or marine vessel applications; load and rope payout are transmitted up to four times per second.
- Swing arm or permanent feet installation options
- Radio range with line of sight: 4000 ft. (1300 m)
- Operates with one 'D' cell battery lithium 3.6V or alkaline 1.5V.
- 1 to 2 years battery life for typical applications
- ISM license free radio: wavelength and modulation optimized for radio communication in industrial environments.
- Temperature range: -40°C to 85°C (-40°F to 185°F)
- Temperature compensated
- Potted electronics for increased water protection

Applications

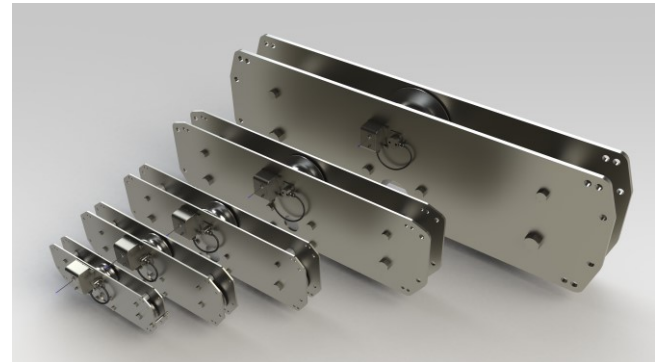
Measurement of wire rope tension (load) and/or rope payout with payout speed in all environments, including offshore.

General Description

The Line Riding Tensiometer operates by displacing a cable thru 3 sheaves and reading the bending force. In order to have a reliable load reading, the cable must contact all 3 sheaves in all operation positions.

The payout sensor reads magnet encoders on the center sheave to compute a payout and speed value.

Transmitter box mounted to the line riding tensiometer houses the battery, radio transmitter, load converter, and payout sensor.



Line Riding Tensiometer Family

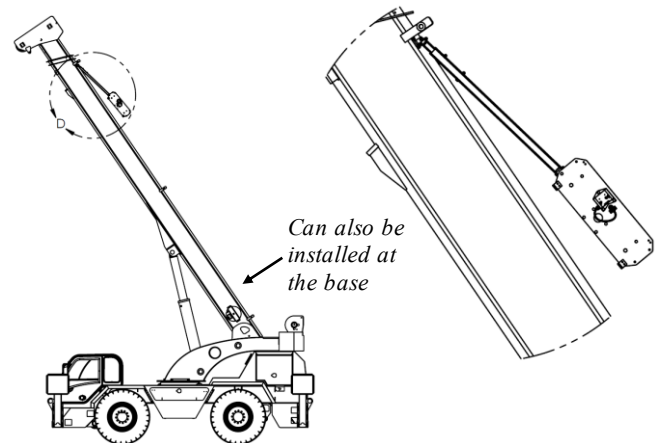


Figure: Installation example on the main boom of a crane for the measurement of load and rope payout

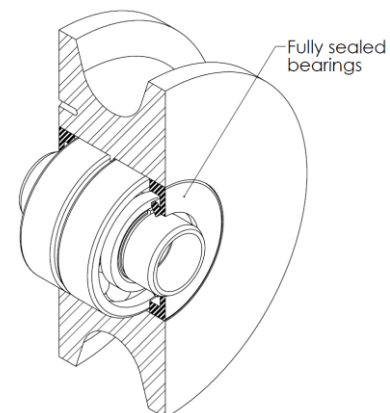


Figure: Integral sheave's bearings sealing for ultimate corrosion protection

GD0375-V2 thru GD4000-V2

Table of Contents

Features.....	1
Applications.....	1
General Description.....	1
Table of Contents.....	2
Ordering Information	3
Specifications.....	3
Absolute Maximum Ratings	4
Certifications	4
Specifications by Model and Options.....	5
Materials:.....	5
Replacement parts:.....	5
Dimensions.....	6
FCC Compliance Statement (USA).....	8
Industry Canada (IC) Compliance Statement.....	8
Information to the User.....	8

GD0375-V2 thru GD4000-V2

Ordering Information

Model	Description
GDXXXX-V2	Line Riding Tensiometer frame with appropriate sheaves for the wire rope. The four 'X' digits are the wire rope diameter in micro inches. For example, GD2500-V2 is for a 2.5" diameter cable, GS1417 is for a 36mm cable.
GS007-01	Load only RF transmitter (902-928MHz)
GS007-CE-01	Load only RF transmitter (868-870 MHz)
GS007-0XM-CSA-V2	Load only RF transmitter (915MHz) frequency band with Class 1, Div 1 Certification
GS007-02	Load and Rope Payout/Speed RF Transmitter (902-928MHz)
GS007-CE-02	Load and Rope Payout/Speed RF Transmitter (868-870 MHz)
GD01X-V2	Appropriate swing arm for the frame size (see table page 6)
GD02X-V2	Appropriate feet kit for the frame size (see table page 6)

Specifications

Parameter	Test Condition	Min	Typ	Max	Unit
Rope Tension Measurement					
Resolution	+/-	0.05	0.2	0.5	% of SWL
Accuracy	+/-	1	2	6	% of SWL
Rope Movement Measurement					
Payout Resolution (see page 6 for more precise values)	+/-	0.5 (12.7)	0.6 (15)	1 (25.4)	in. (mm)
Radio Power					
	GDM-1125-FCC-V2		0.0054 7		W dBm
Radio Frequency					
North American version	GS007	903	916	927	MHz
European version	GS007-CE	868	868	870	MHz
Battery life					
	'D' cell battery life depends on usage	12	24	28	Month

GD0375-V2 thru GD4000-V2

Absolute Maximum Ratings

Parameter	Test Condition	Min	Typ	Max	Unit
Temperature range	Operating	-40		+85	°C
		-40		+185	°F

Certifications

FCC/IC/CE certification : FCC Part 15 Subpart C 15.247,15.205, 15.207 & 15.209
ETSI EN 300 220 (AA)

EMI/C - EN 61000-4-3, EN 301 489-1 - Clause 8.2

CSA Certificate Number – 80130757

CSA C22.2 No. 60079-0:19, 60079-11:14 (R2018), 61010-1-12, Update 1&2, Amd1:2018
UL 60079-0-2020, UL 60079-11-2018, UL 61010-1-2018

Class I, Division 1, Group A, B, C & D T4
Ex ia IIC T4 Ga
Class I, Zone 0, AEx ia IIC T4 Ga

Ambient Temperature: -20°C to 40°C.



WARNING: Only use Tadiran TL-5930 3.6V or Saft LS33600 cell 3.6V text.

l'avertissement: Utilisez uniquement du texte Tadiran TL-5930 3,6 V ou Saft LS33600 3,6 V.

GD0375-V2 thru GD4000-V2

Specifications by Model and Options

Line Rider model	Max load (lb)	Max Load (kg)	Payout resolution* (in)	Payout resolution* (mm)	Cable diameter (in)	Weight lb [kg]	Load Only RF Transmitter	Load and Rope Payout RF Transmitter	Swing Arm option	Feet Kit Option
GD0375-V2	4743	2156	0.57	14.46	3/8	29 [13]	GS007-01	GS007-02	GD012-V2	GD030-V2
GD0500-V2	8343	3792	0.53	13.47	½					
GD0563-V2	10571	4805	0.51	12.97	9/16					
GD0625-V2	12971	5896	0.49	12.47	5/8					
GD0750-V2	18514	8416	0.75	18.95	¾	62 [28]			GD013-V2	GD030-V2
GD0875-V2	25029	11377	0.71	17.95	7/8					
GD0945-V2	32514	14779	0.68	17.21	24mm					
GD1000-V2	32514	14779	0.67	16.96	1					
GD1125-V2	40857	18571	0.63	15.96	1 1/8	100 [45.5]			GD014-V2	GD031-V2
GD1250-V2	50229	22831	0.52	13.30	1 ¼					
GD1375-V2	60571	27532	0.50	12.63	1 3/8					
GD1417-V2	71429	32468	0.48	12.30	36mm					
GD1500-V2	71429	32468	0.47	11.97	1 ½	250 [113.5]			GD022-V2	GD031-V2
GD1625-V2	83429	37922	0.45	11.30	1 5/8					
GD1750-V2	96571	43896	0.68	17.29	1 ¾					
GD1890-V2	124000	56364	0.63	16.13	48mm					
GD2000-V2	124000	56364	0.62	15.79	2	1010 [459]			GD023-V2	GD032-V2
GD2250-V2	155429	70649	0.56	14.30	2 ¼					
GD2500-V2	214857	97662	1.05	26.60	2 ½					
GD3000-V2	307429	139740	0.92	23.27	3					
GD4000-V2	528571	240260	0.72	18.29	4					

*Do not use Payout data as a precise measurement.

Materials:

The frame, load sensing pin, and hardware are made of stainless steel (AISI 304 and 17-4PH1025), this includes the optional swing arm and brackets. The sheaves are in nitride 4140 steel and the bearings are integrally sealed from the environment.

Replacement parts:

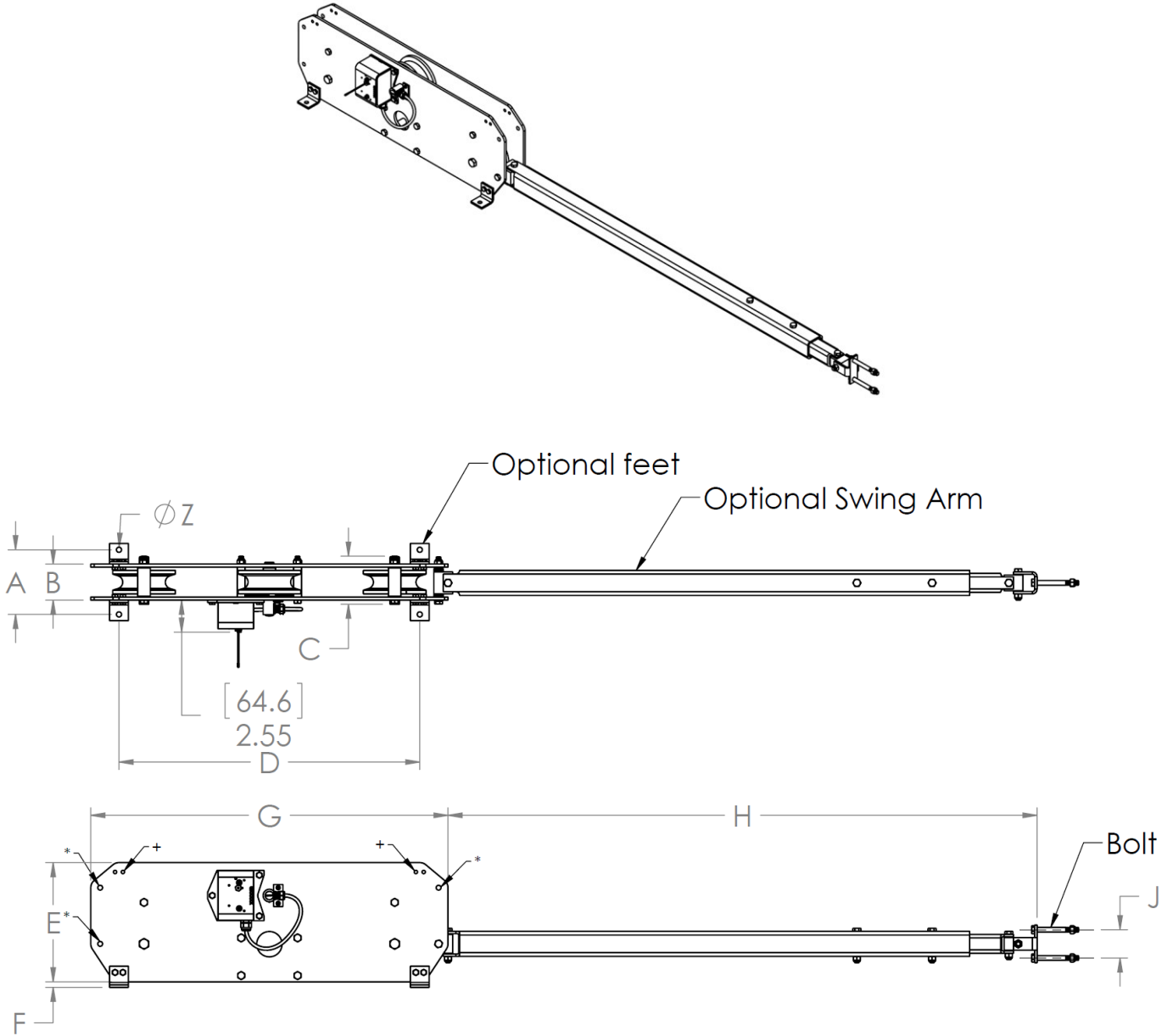
Line Rider model	Cable Roller	Bearing	Seal
GD0375-V2/GD0500-V2/GD0563-V2/GD0625-V2	PF504	5205**	CR 25x52x7 HMS5 RG
GD0750-V2/GD0875-V2/GD0945-V2/GD1000-V2/GD1125-V2	PF604	6205	CR 25x52x7 HMS5 RG
GD1250-V2/GD1375-V2/GD1417-V2/GD1500-V2/GD1625-V2	PF704	6207	CR 35x72x12 HMS5 RG
GD1750-V2/GD1890-V2/GD2000-V2/GD2250-V2	PF804	6210	CR 50x90x10 HMS5 RG
GD2500-V2/GD3000-V2/GD4000-V2	PF904	33113	CR 70x110x10 HMS5 RG

All bolting can be replaced with UNC nuts and bolts. Material is AISI 304 stainless steel or better.

**Bearing number 4205 on models sold before 2012.

GD0375-V2 thru GD4000-V2

Dimensions



Units are in inches [millimeters]
 * Alternative mounting holes for the swing arm
 + Secondary feet mounting holes

GD0375-V2 thru GD4000-V2

Line Rider model	D I M E N S I O N S (inches)										
	A	B	C	D	E	F	G	H adjustable in 6" [152mm] increments	J	Z	Bolt
GD0375-V2	4.53	2.25	3.32	18.00	7.38	0.44	21.5	47.00-77.00	2.25	0.41	3/8-16
GD0500-V2	4.53	2.25	3.32	18.00	7.38	0.44	21.5	47.00-77.00	2.25	0.41	3/8-16
GD0563-V2	4.53	2.25	3.32	18.00	7.38	0.44	21.5	47.00-77.00	2.25	0.41	3/8-16
GD0625-V2	4.53	2.25	3.32	18.00	7.38	0.44	21.5	47.00-77.00	2.25	0.41	3/8-16
GD0750-V2	5.15	2.88	3.82	24.00	9.50	0.44	28.50	48.00-78.00	2.25	0.41	3/8-16
GD0875-V2	5.15	2.88	3.82	24.00	9.50	0.44	28.50	48.00-78.00	2.25	0.41	3/8-16
GD0945-V2	5.15	2.88	3.82	24.00	9.50	0.44	28.50	48.00-78.00	2.25	0.41	3/8-16
GD1000-V2	5.15	2.88	3.82	24.00	9.50	0.44	28.50	48.00-78.00	2.25	0.41	3/8-16
GD1125-V2	5.15	2.88	3.82	24.00	9.50	0.44	28.50	48.00-78.00	2.25	0.41	3/8-16
GD1250-V2	5.88	3.50	5.02	32.00	10.75	0.80	36.00	46.75-76.75	2.25	0.53	3/8-16
GD1375-V2	5.88	3.50	5.02	32.00	10.75	0.80	36.00	46.75-76.75	2.25	0.53	3/8-16
GD1417-V2	5.88	3.50	5.02	32.00	10.75	0.80	36.00	46.75-76.75	2.25	0.53	3/8-16
GD1500-V2	5.88	3.50	5.02	32.00	10.75	0.80	36.00	46.75-76.75	2.25	0.53	3/8-16
GD1625-V2	5.88	3.50	5.02	32.00	10.75	0.80	36.00	46.75-76.75	2.25	0.53	3/8-16
GD1750-V2	6.91	4.54	6.70	42.00	14.50	0.25	48.50	64.06-88.06	3.25	0.53	1/2-13
GD1890-V2	6.91	4.54	6.70	42.00	14.50	0.25	48.50	64.06-88.06	3.25	0.53	1/2-13
GD2000-V2	6.91	4.54	6.70	42.00	14.50	0.25	48.50	64.06-88.06	3.25	0.53	1/2-13
GD2250-V2	6.91	4.54	6.70	42.00	14.50	0.25	48.50	64.06-88.06	3.25	0.53	1/2-13
GD2500-V2	11.90	7.50	10.04	60.50	21.00	0.50	68.00	63.81-87.81	3.25	1.00	1/2-13
GD3000-V2	11.90	7.50	10.04	60.50	21.00	0.50	68.00	63.81-87.81	3.25	1.00	1/2-13
GD4000-V2	11.90	7.50	10.04	60.50	21.00	0.50	68.00	63.81-87.81	3.25	1.00	1/2-13

Line Rider model	D I M E N S I O N S (mm)										
	A	B	C	D	E	F	G	H adjustable in 6" [152mm] increments	J	Z	Bolt
GD0375-V2	115.1	57.2	84.3	457.2	187.5	11.2	546.1	1194-1956	57.2	10.4	3/8-16
GD0500-V2	115.1	57.2	84.3	457.2	187.5	11.2	546.1	1194-1956	57.2	10.4	3/8-16
GD0563-V2	115.1	57.2	84.3	457.2	187.5	11.2	546.1	1194-1956	57.2	10.4	3/8-16
GD0625-V2	115.1	57.2	84.3	457.2	187.5	11.2	546.1	1194-1956	57.2	10.4	3/8-16
GD0750-V2	130.8	73.2	97.0	609.6	241.3	11.2	723.9	1219-1981	57.2	10.4	3/8-16
GD0875-V2	130.8	73.2	97.0	609.6	241.3	11.2	723.9	1219-1981	57.2	10.4	3/8-16
GD0945-V2	130.8	73.2	97.0	609.6	241.3	11.2	723.9	1219-1981	57.2	10.4	3/8-16
GD1000-V2	130.8	73.2	97.0	609.6	241.3	11.2	723.9	1219-1981	57.2	10.4	3/8-16
GD1125-V2	130.8	73.2	97.0	609.6	241.3	11.2	723.9	1219-1981	57.2	10.4	3/8-16
GD1250-V2	149.4	88.9	127.5	812.8	273.1	20.3	914.4	1187-1949	57.2	13.5	3/8-16
GD1375-V2	149.4	88.9	127.5	812.8	273.1	20.3	914.4	1187-1949	57.2	13.5	3/8-16
GD1417-V2	149.4	88.9	127.5	812.8	273.1	20.3	914.4	1187-1949	57.2	13.5	3/8-16
GD1500-V2	149.4	88.9	127.5	812.8	273.1	20.3	914.4	1187-1949	57.2	13.5	3/8-16
GD1625-V2	149.4	88.9	127.5	812.8	273.1	20.3	914.4	1187-1949	57.2	13.5	3/8-16
GD1750-V2	175.5	115.3	170.2	1066.8	368.3	6.4	1231.9	1627-2237	82.6	13.5	1/2-13
GD1890-V2	175.5	115.3	170.2	1066.8	368.3	6.4	1231.9	1627-2237	82.6	13.5	1/2-13
GD2000-V2	175.5	115.3	170.2	1066.8	368.3	6.4	1231.9	1627-2237	82.6	13.5	1/2-13
GD2250-V2	175.5	115.3	170.2	1066.8	368.3	6.4	1231.9	1627-2237	82.6	13.5	1/2-13
GD2500-V2	302.3	190.5	255.0	1536.7	533.4	12.7	1727.2	1621-2330	82.6	25.4	1/2-13
GD3000-V2	302.3	190.5	255.0	1536.7	533.4	12.7	1727.2	1621-2330	82.6	25.4	1/2-13
GD4000-V2	302.3	190.5	255.0	1536.7	533.4	12.7	1727.2	1621-2330	82.6	25.4	1/2-13

GD0375-V2 thru GD4000-V2

PMN: GDM-1125-FCC-V2

HVIN: MB103-00-SD-A

FCC Compliance Statement (USA)

FCC ID: S9E-GS200G

Compliance Statements: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including, an interference that may cause undesired operation.

Caution Statements:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Industry Canada (IC) Compliance Statement

IC: 5817A-GS000G

Compliance Statements: This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: 1) This device may not cause interference., 2) This device must accept any interference, including interference that may cause undesired operation of the device.

Déclarations de conformité: Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Caution Statements:

- This equipment complies with radio frequency exposure limits set forth by Industry Canada for an uncontrolled environment.
- This equipment should be installed and operated with a minimum distance of 20 cm between the device and the user or bystanders.

Déclarations de mise en garde:

- Cet équipement est conforme aux limites d'exposition aux radiofréquences définies par Industrie Canada pour un environnement non contrôlé.
- Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance dispositif et l'utilisateur ou des tiers.

Information to the User

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.