



TWS Crane Weighing

Complete System



A WORLD LEADER
IN SCALE TECHNOLOGY

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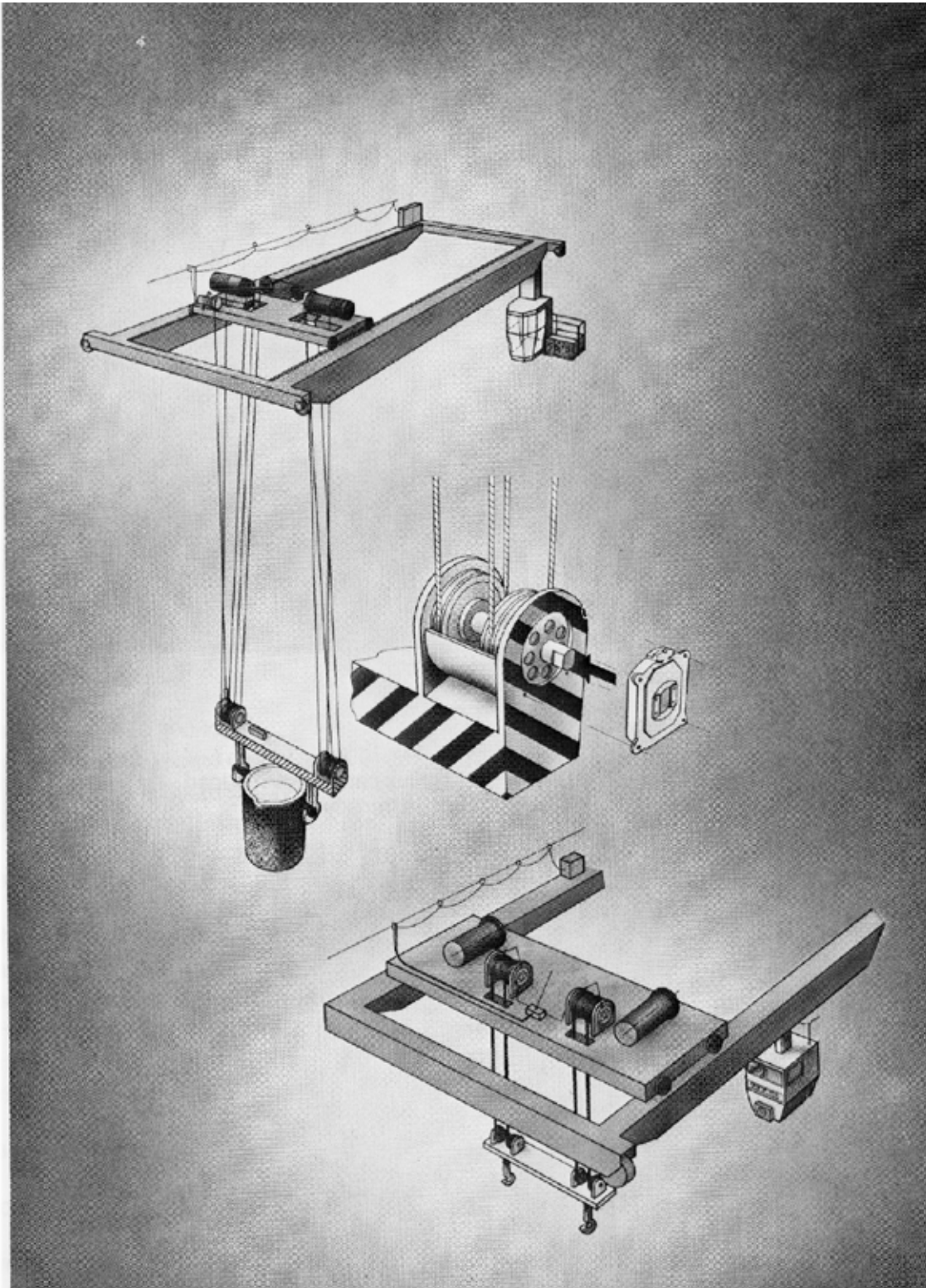
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INTEGRAL SYSTEM

-The best solution-

The TWS Strain Gage load cell forms an integral part of the crane structure.



1. Load Cell TWS-K105



The load cell is intended to be used for weighing in cranes and for measurement of the load between the hook and the ropes.

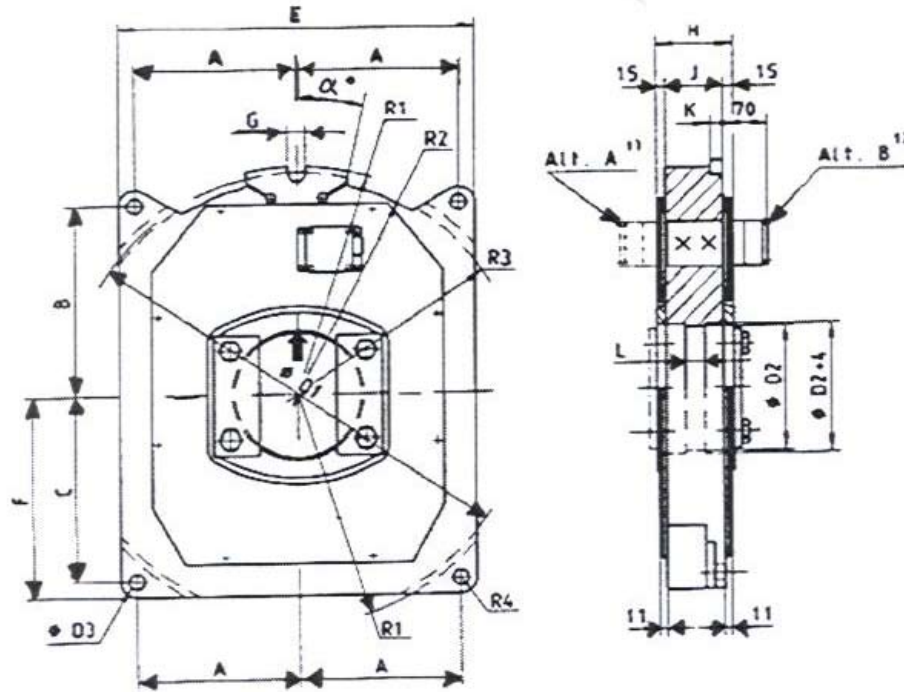
The load from the ropes is carried on the shaft to the load cells, which are mounted to the side plates. The cells are insensitive to lateral loads. The sides are sealed with heavy duty cover plates.

All bearing surfaces are greased, the remaining surfaces are protected by an industrial grade paint which provides excellent corrosion protection.

Characteristic	Advantage	How achieved
Overload capacity	Ability to withstand severe overload in rough service.	Low stress in the transducer element material at nominal load.
Long-term stability	High repeatability	The operation of the force transducer is based on the strain gage properties of the transducer element and these do not vary with time.
Stability with lateral forces	Engineered with close tolerances to provide a robust application and ease of installation.	Industrial transducer housing machined from high-alloy steel. Heat treated.
Ability to withstand an aggressive environment	Reliable in mill environment. Environmentally sealed.	The force transducer has a low internal impedance and temperature construction up to 400 Deg. F.
Interchangeability	Simple and quick to replace	Load cell dimensions and electrical components are standardized.

Load Cell TWS-K105 (cont.)

The Model TWS-K105 is a high accuracy strain gage load cell. The load cell body style and capacities are specifically designed for crane applications. The Tech Weigh load cell is available in capacities from 6.3 tons to 160 tons. High temperature construction and high temperature cable options are available up to 400 deg. F. Custom load cells can be provided to fit specific applications.



Dimensions (mm)

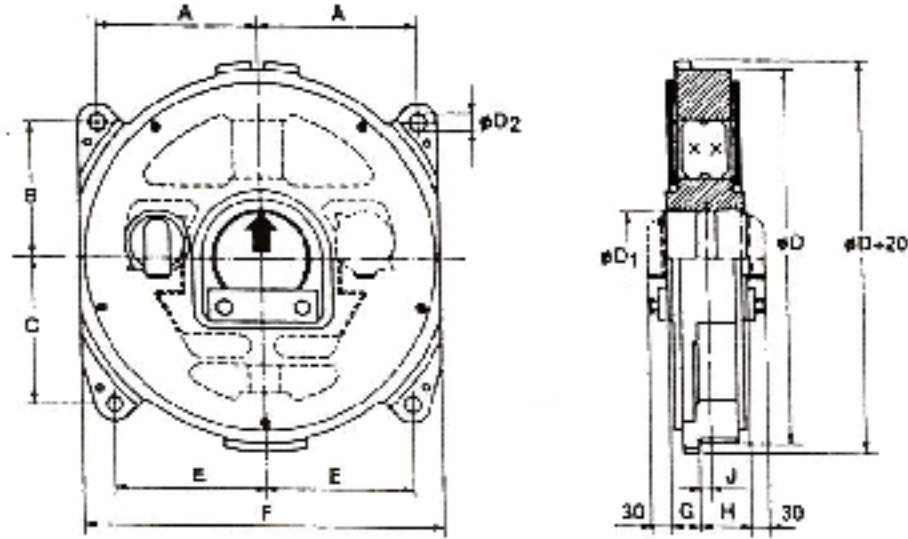
Metric Tons	A	B	C	D1	D2	D3	E	F	G	H	J	K	R1	R2	R3	R4	
6.3	145	180	170	400	80	16	320	185	16	80	50	15	210	190	198	15	12
10	155	205	195	450	100	20	350	215	20	100	70	20	235	215	223	20	10
16	185	215	205	500	120	20	410	225	20	100	70	20	260	240	248	20	12
25	200	270	260	600	160	24	450	285	20	100	70	20	310	290	298	25	13
40/63	250	300	290	700	200	24	550	315	28	120	90	20	360	340	348	25	13
100	265	355	340	800	240	30	590	370	28	150	120	25	410	390	398	30	15
160	295	395	380	900	280	30	650	410	32	150	120	25	460	440	448	30	17

SPECIFICATIONS:

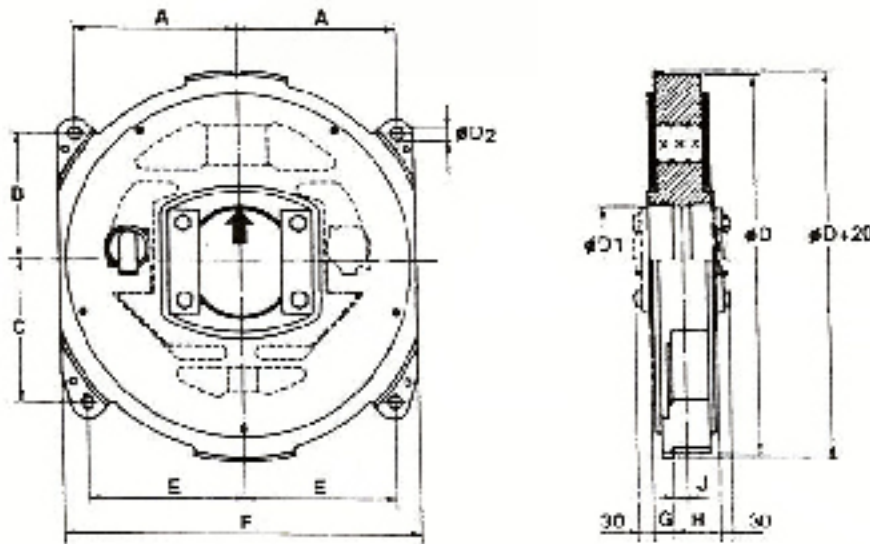
Full Scale Output:	2m V/V	Combined Error:	0.10% F.S.
Bridge Resistance:	700 ohms, nominal	Non-Repeatability:	0.03% F.S.
Material:	High- Alloy Steel	Insulation Resistance:	5000 megohms
Temperature:	Range 0 to 150 deg. F High temperature available to 400 deg. F.	Standard Cable Length:	25 ft.
Safe Overload:	150 %	Color Code:	+ Excitation-Red - Excitation-Black + Signal Green - Signal White
Maximum Overload:	300%		
Rated Excitation:	10V AC/DC		

2. Load Cell TWS-K101

The Model TWS-K101 is a high accuracy, strain gage load cell. The load cell body style and capacities are specifically designed for crane applications. The Tech Weigh load cell is available in capacities from 6.3 tons to 160 tons. High temperature construction and high temperature cable options are available up to 400 deg. F. Custom load cells can be provided to fit specific applications.



TWS-K 101
6.3T - 25T



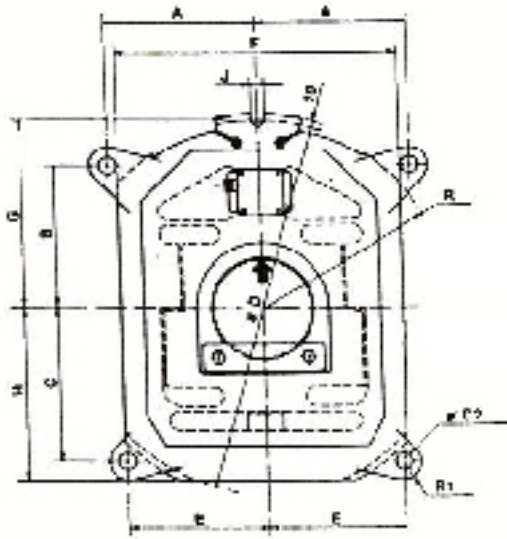
TWS-K 101
40T - 160T

Dimensions (mm)

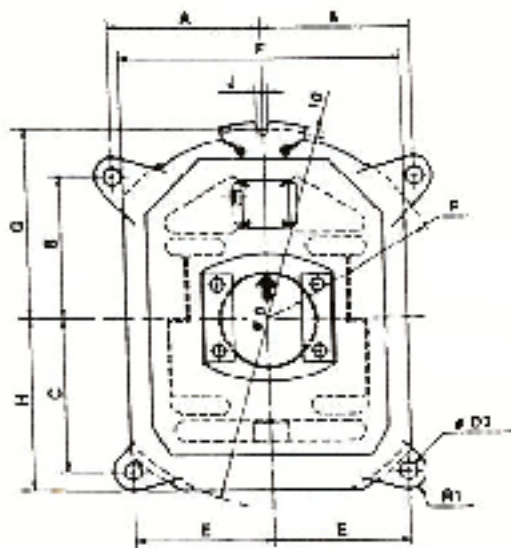
Metric Tons	A	B	C	D	D1	D2	E	F	G	H	J
6.3	145	175	180	400	80	20	140	370	30	50	10
10	180	175	190	450	100	24	165	410	35	65	15
16	210	180	195	500	120	24	195	470	35	65	15
25	240	225	245	600	160	30	220	540	35	65	15
40/63	295	240	255	700	200	30	280	650	35	85	25
100	325	285	300	800	240	38	310	720	40	110	35
160	360	325	345	900	280	38	340	790	40	110	35

3. Load Cell TWS-K102

The Model TWS-K102 is a high accuracy, strain gage load cell. The load cell body style and capacities are specifically designed for crane applications. The Tech Weigh load cell is available in capacities from 6.3 tons to 160 tons. High temperature construction and high temperature cable options are available up to 400 deg. F. Custom load cells can be provided to fit specific applications.



TWS-K 102
6.3T - 25T



TWS-K 102
40T - 160T

Dimensions (mm)

Metric Tons	A	B	C	D	D1	D2	E	F	G	H	J	K	L	M	N	R	R1
6.3	145	175	180	400	80	20	140	320	200	190	16	80	50	15	10	195	20
10	180	175	190	450	100	24	165	350	225	215	20	100	70	20	10	220	25
16	210	180	195	500	120	24	195	410	250	225	20	100	70	20	10	245	25
25	240	225	245	600	160	30	220	450	300	275	20	100	70	20	12	295	30
40/63	295	240	255	700	200	30	280	550	350	315	28	120	90	20	12	345	30
100	325	285	300	800	240	38	310	580	400	320	28	150	120	25	15	395	35
160	360	325	345	900	280	38	340	650	450	390	32	150	120	25	15	445	35

4. 920i Programmable Indicator/Controller



920i is easy to use and is truly the first of its kind to blend revolutionary user interfaces, total flexibility and ultimate processing performance with the simplicity of a basic weight meter.

Programmable keys provide instant access to frequently used functions such as selecting a formula, starting a batch, beginning a data collection sequence or searching or sorting a file. When process changes, soft keys can easily be modified in the field.

From simple transaction and inventory records to complex data manipulation, the 920i will manage critical information in a way that best fits. Battery-backed memory allows customized database files to store information like id numbers, transactions, formulas, label formats and PLUs. With up to 14MB optional memory.

Standard Features:

- Large 4.6" W x 3.4" H, 320 x 240 pixel back-lit LCD graphical display
- Selectable character sizes from .25" to 1.2"
- Display up to four scale channels with required Legal-for-Trade information
- 32 scale accumulators
- Five displayed soft keys with 10 user-defined and 14 preset functions
- Front panel or serial configuration/calibration
- NEMA 4X/IP66 stainless steel enclosure
- Four bi-directional communication ports
- Operator prompts
- Four on-board digital I/O
- 100 set-points
- Two option card slots
- 1000-ID truck registers for in/out weighing
- Programmable ticket formats
- ESP event-driven processing
- User programmable 128K flash memory
- Power for 16 (350 ohm) load cells per channel or 32 total per A/D option card



Measurement
Canada
Approved

Option Cards:

- Digital I/O 24, channel
- A/D dual or single channel
- Analog output selectable (0-10V, 4-20mA)
- Memory module, 1MN
- Two channel serial (accommodates RS-232, RS-485 and 20mA current loop)
- Expansion board (2 and 6 port)

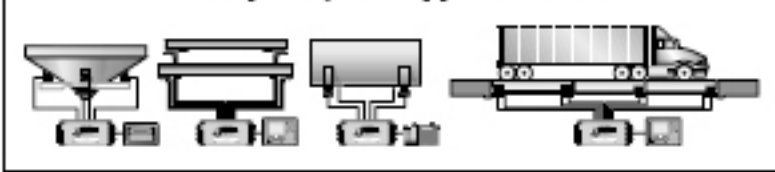
5. i-QUBE Digital Diagnostic Junction Box



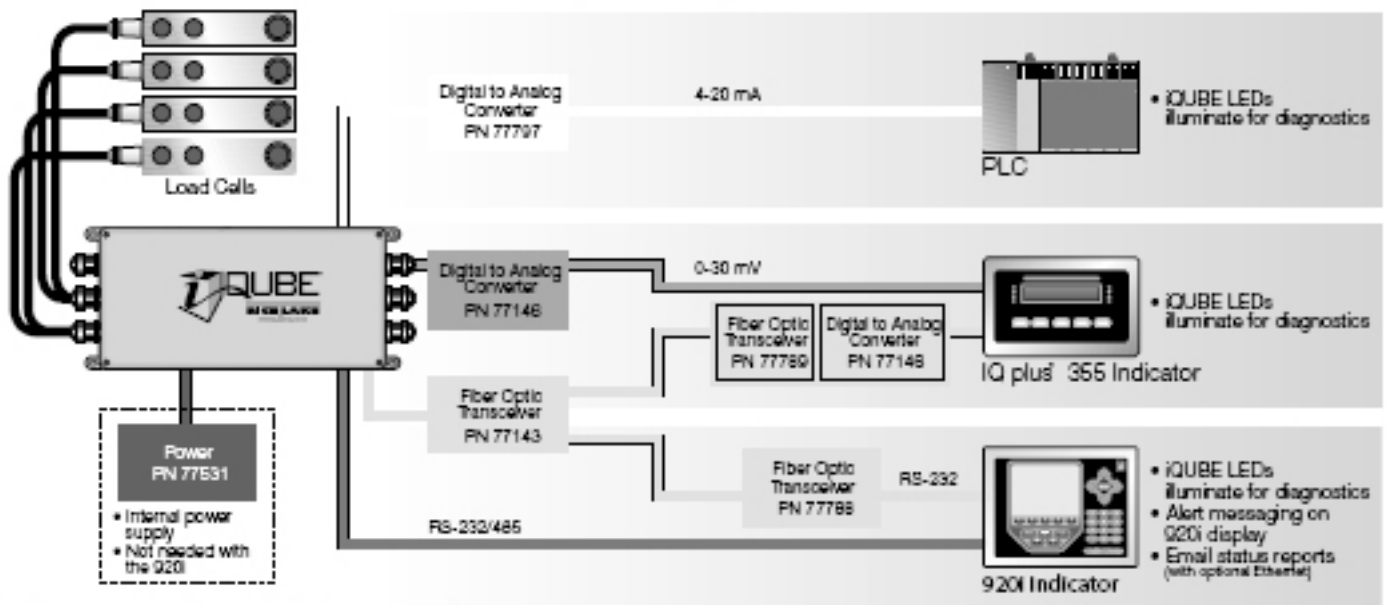
Standard Features:

- 4-channel model, 8-channel model, and 8-channel model with 8 digital I/O
- NEMA 4X polycarbonate enclosure
- Multi-level transient protection
- 4-platforms and 16-cell summing capacities
- Daisy chain up to 3 master/slaves iQUBEs for multiple scale applications
- Cal-Match™ algorithm automatically trims and calibrates scale in one pass of test weights (stopping for each mount)
- Theoretical calibration allows you to enter factory sensitivity and capacity values to calibrate the scale without test weights
- Manual software trimming
- Load cell substitution supports cells of unmatched capacities
- Serial (RS-485) connectivity-full duplex
- Bi-color LEDs offer diagnostics capabilities by checking and illustrating load cell status in real time
- Cell-Emulator load cell algorithm compensates for excessive drift, A/D failures, connection errors, excitation voltage shifts, and more. It allows the scale to function properly until a permanent repair is available
- Configure with Revolution III™ software for use with analog devices and iRev™ software for the iQUBE and the 920i

Sample iQUBE Applications



Sample Configurations*



* Not an actual system—illustrates connectivity

6. Peripheral Equipment

6.1 Scoreboards

SURVIVOR®
LaserLight™ Series



Standard Features:

- Six high-intensity red digits (double-row discrete LED)
- Four high-intensity red annunciators for gross, net, lb, kg
- Available in 4" (101.6mm) and 6" (152.4mm) digit sizes
- Auto learn mode of communication protocols
- Hold displayed weight (demand input)
- Software selectable stand still mode, no updates while in motion
- Software configuration menu
- Durable weather-tight enclosure
- Adjustable daylight/night intensity
- Non-glare contrast filtered lens
- Mirror function
- RS-232, 20 mA, and RS-485 communications
- Auto sensing 115/230 VAC power supply
- 6" (152.4mm) LaserLight enclosure mounting holes match SURVIVOR IQ F40 Series remote display
- Porous polyethylene breather vent

6.2 Printers

SP2200 Ticket Printer



Standard Features:

- Double-strike high speed, 180 characters per second (cps)
- Single copy or up to five-part multicopy forms
- Functions in slave capacity, printing information sent via RS-232 or weight extraction smart mode, processing information before printing
- Cash drawer kick-out function
- Inexpensive ink cartridge for no-mess ribbon changes
- Battery back-up; optional time/date and consecutive number (or ID) are retained for a year or more in the event of a power failure
- Compatible with all types of printers

6.3 Junction Boxes

JB4SS TuffSeal™ Signal Trim Junction Box



Standard Features:

- Stainless steel, NEMA 4X enclosure
- Shunt jumpers to disable unused load cell parts
- PreVent® breather vent
- Conformal coated circuit board

Number of Cells:

- 2-4 single cells
- Expansion port

6.4 Radio Systems

ConnexLink™ Wireless Radio
900MHZ Transceivers



Standard Features:

- Durable industrial enclosure with mounted flanges
- Transmits around corners and through walls
- Reliable communications up to 115200kbps
- Supports point-to-point and point-to-multipoint applications



This catalogue describes the TWS Crane Weighing System.
A brief description of each unit is provided, including data and dimensions.
TWS reserves the right to change design, data and dimensions without prior notice.

TWS Crane Weighing System

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