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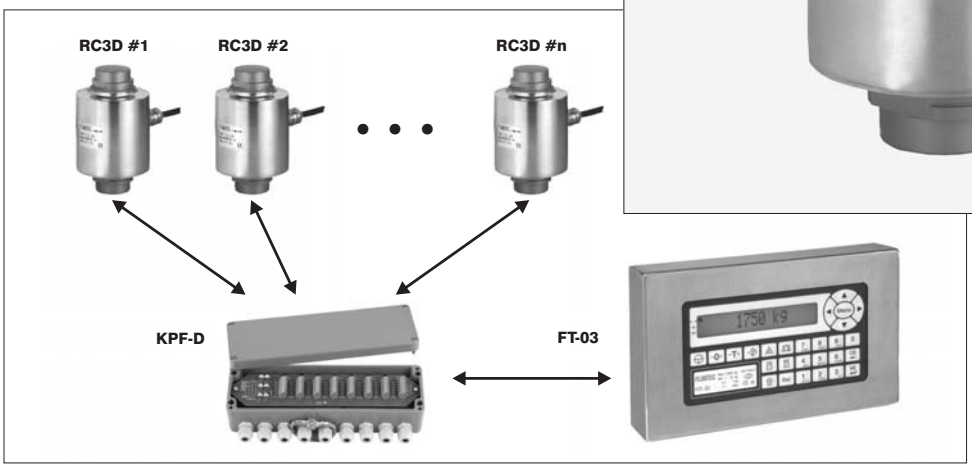
Type RC3D Digital Load Cell



System Configuration with RC3D Components

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The RC3D is the *DIGITAL* version of the very successful RC3. Flintec integrated a state of the art microprocessor system into the load cell to improve system accuracy, and load cell handling. RC3D rocker column load cells are available in the capacities 30 t to 50 t and include Accuracy Classifications GP, C1, C3, C4 and C6 according to OIML R 60.

The digital output enables the user to communicate with each load cell independently of the others in the system. It offers advantages in system setup, corner adjustment, system calibration, fault finding and load cell replacement.

The digital output from the RC3D can be directly connected to a computer, PLC or others. Flintec added two more components to help the user with his system configuration: a junction box and a weight indicator.

The junction box KPF-D connects multiple RC3D load cells. The polyester box is designed to connect 4 to 8 load cells in a bus configuration (cascade).

The Flintec FT-03 weight indicator (with alibi memory) can be used with analogue load cells and the RC3D load cells. Analogue / Digital load cells selection by parameter setting. Programming and calibration of the individual RC3D load cells is possible via the keys available or more comfortly via laptop or PC connected. The unit incorporates the power supply for all RC3D load cells connected. The unit can be connected to a PC system for further data management.

The load cells offer total stainless steel construction and complete hermetic sealing, making them suitable for use in the toughest industrial environments.

This load cell design in combination with a low cost self aligning rocker assembly unites excellent load introduction with a low profile outline.

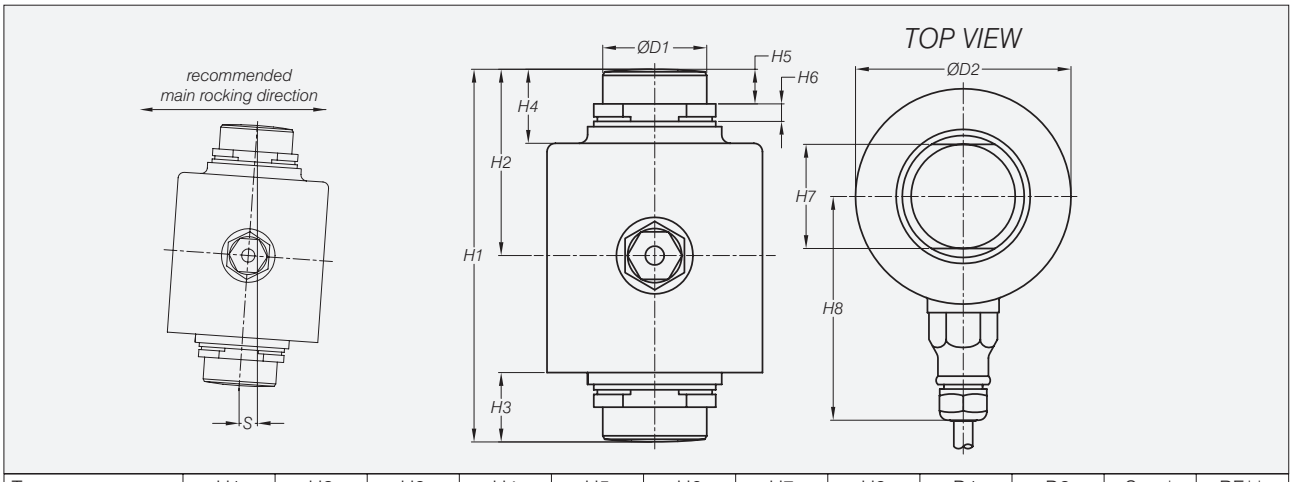
Important Features

- Capacities: 30 t to 50 t.
- High accuracy.
- Easy communication and system setup.
- Additional RC3D system components available: KPF-D junction box and FT-03 weight indicator.
- Total stainless steel construction.
- Complete hermetic sealing, protection IP 68.
- Easy cable replacement.
- Complete range of loading hardware available.

RC3D Specifications

Maximum capacity	(E_{max})	t	30 / 40 / 50			
Rated Output	(=RO)	counts	200 000			
Accuracy class according to OIML R 60			(GP)	C1	C3	C4
Maximum number of verification intervals	(n_{max})		n.a.	1000	3000	4000
Minimum load cell verification interval	(v_{min})		n.a.	E_{max} /5000	E_{max} /15000	
Combined error		%RO	≤ ± 0.040	≤ ± 0.030	≤ ± 0.020	≤ ± 0.018
Creep error (30 minutes) / DR		%RO	≤ ± 0.060	≤ ± 0.049	≤ ± 0.016	≤ ± 0.012
Temperature effect on minimum dead load output		%RO/°C	≤ ± 0.0040	≤ ± 0.0028	≤ ± 0.0009	≤ ± 0.0009
Temperature effect on sensitivity		%/°C	≤ ± 0.0020	≤ ± 0.0015	≤ ± 0.0010	≤ ± 0.0008
Converter type			Sigma-Delta ratiometric			
Conversion rate			3 to 70 Hertz (selectable)			
Digital filter			FIR automatically adjusted to conversion rate plus Rolling Average (1, 2, 4, 8, 16, 32 samples) post filtering			
Internal resolution		counts	550 000			
Asynchrone interface			RS485A half duplex, multidrop with networking address, 2400 to 38400 baud Baudrate, data bits, parity and data output are programmable			
Number of bus addresses			32			
Excitation voltage		V	9...12			
Current consumption		mA	40			
Compensated temperature range		°C	–10...+40			
Operating temperature range		°C	–40...+80			
Safe load limit	(E_{lim})	%E_{max}	200			
Ultimate load		%E_{max}	300			
Load cell material			stainless steel 17-4 PH (1.4548)			
Sealing			complete hermetic sealing; cable entry sealed by glass to metal header			
Protection according DIN 40.050			IP 68			

Dimensions

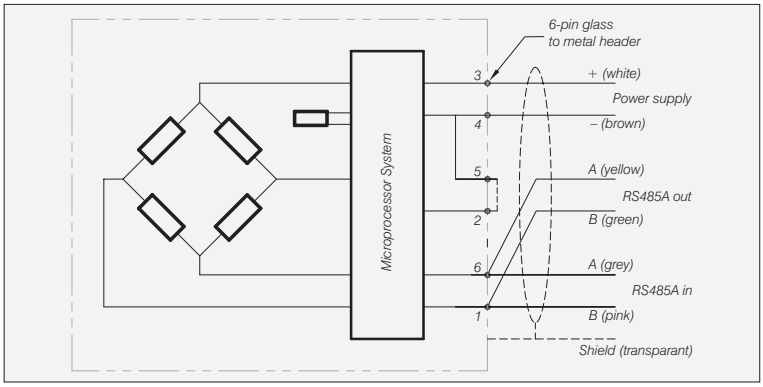


Type	H1	H2	H3	H4	H5	H6	H7	H8	D1	D2	S_{max}*	RF**
RC3D-30 t / 40 t	150	70	26	28	13	6.5	39	84	39	81	12	27 kN
RC3D-50 t	178	89	32	34	17	8.5	44	94	44	99	9	51 kN

* S_{max} = maximum lateral displacement of load introduction. Recommended gap3...5 mm.
** RF = restoring force at S_{max} and E_{max}.
All dimensions in mm. Dimensions and specifications are subject to change without notice.

Wiring

- The load cell is provided with a 3x twisted pair cable (AWG 24) and shield according DIN 47 100.
- Cable length: 18 m.
- Cable diameter: 7.4 mm.
- The shield is connected to the load cell body.



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