C3 Series - C320 Data Sheet

- Wide DC range 5-24V

- 20mm (0.8in) LCD display with RGB backlight

- Six 9 segment characters

- Versatile mounting options

- Tough, compact polyester overlay

- rinLINK connector

- NTEP/ OIML/ NMI approved

The C320 is Rinstrum's latest compact panel mount indicator that is ideal for use in mobile applications such as forklifts, platforms, inside truck cabs, crane scales and OEM applications. Ideal for basic weight-control or level-control functions using the general or advanced setpoints and checking weighing. Both functions offer an improved operator interface with the multi-coloured backlight. Like the R3 Series the C320 can be combined with a desk mount or IP65 boot to make a full housing unit that can be used on a desk or pole mounted. The C320 supports a new range of accessory cards. The communication cards offer increased options and expansion cards cover additional functions.

- Wide DC operation (5-24V)/ USB lead: to suit a variety of onboard OEM applications. The USB lead eliminates the need for third party power supplies saving on system complexity and cost.

- Two RS232 bidirectional serial ports: independently configurable for network, printing or remote display functions.

- Inputs and Outputs: Two digital inputs and two high-side digital outputs that are electrically isolated. Outputs are capable of driving low voltage DC actuators directly

- Onboard data storage: compliant to WELMEC 7.2 (alibi memory DSD)

- rinLINK: magnetically coupled link on front fascia for easy access in situ for updates/setup of the indicator, saving the installer time and effort.

- Flush polyester overlay with mechanical keys: no membrane key to wear out, easy to keep clean, fully sealed, durable chemical resistance, improves uv resistance.

- Printing: Multiple standard print dockets through to fully programmable print formats that can be easily created with the drag and drop configuration tool rinPRINT.

Advanced Setpoints

The C3 instruments support up to 8 setpoints with setpoints 1 and 2 linked to the onboard digital outputs. Setpoint status can be used to drive the onboard outputs directly, sound the buzzer, change display backlight colour or can be transferred to external control systems using modbus RTU or through field bus expansion. Setpoint functions include:

- OVER/UNDER target

- CHECKWEIGH: OVER, UNDER, PASS

- Status (motion, zero, net)

Setpoint outputs can be latched and reset from remote inputs or external control.

Accessory Cards

Optional accessory cards can be connected using the Accessory port to add more functionality to the C320 indicator.

Communication cards

- C3 Series RS232 Communications card - M6201

- C3 Series RS485 Communications card - M6203

- C3 Series 20 mA Current Loop Communications card - M6204

Expansion Cards
- C3 Analogue Output card - M6401 (K306 only)

Accessory card
- C3 Series Converter 0-10V/4-20mA Input (M4902)

Smart Weighing

The C320s bright, vivid backlight changes colour automatically as the pre-assigned target weights are reached.

The operator knows immediately when they've reached the acceptable weight range based on the orange, green, or red color changes for UNDER, ACCEPT, or OVER weights.

… now that's smart weighing!

Specifications

General	
Trade Approval	NTEP 23-090 / NMI S869 / OIML R76-1 (2006)
Resolution	Up to 100,000 divisions, minimum of 0.1uV/division Trade: Up to 10,000 divisions, minimum of 0.33uV/division
Zero Cancellation	± 2.0mV/V
Span Adjustment	0.1mV/V to 5.0mV/V full scale
Excitation	5V for up to 8 x 350-ohm load cells (4-wire or 6-wire plus shield) Max total load cell resistance: 3,500Ω
A/D Type	24bit Sigma Delta with 8,388,608 internal counts, 50 updates/second
Operating Environment	Temperature: −10° to +50°C ambient (14° to 122° F), Humidity: <90% non-condensing
Setup and Calibration	Fully digital with visual prompting in plain messages
Digital Filter	IIR low pass filter
Zero Range	Selectable from ± 2% to ± 100% Full Scale
Standard Power Input	5 to 24VDC (2.5 VA max) ON/OFF key with memory feature
Optical Data Communications	rinLINK - magnetically coupled infra-red communications Conversion cables available for USB
Keys US Region	Power/ Zero/ Tare/ Select/ Units Switching (lb/ kg/ oz/ g/ t/ TN/ lb:oz/custom) plus two assignable function keys
Keys ROW Region	Power/ Zero/ Tare/ Select plus three assignable function keys

Accessory Cards	
Communications cards	RS485, RS232, Current loop
Expansion Cards (K306 Only)	0-10V, 4-20mA, isolated 16 bit analogue output

	C320	C350	C357
Display	RGB Backlit LCD with six 20mm (0.8") high digits with units and annunciators, 9 segment	RGB Backlit LCD with six 50.8mm (2") high digits with units and annunciators, 9 segment	
Case Materials	Resin Alloy	Resin Alloy	Stainless Steel

		C320-A	C320-G	C320-H	C350	C357
AC 110-240 VAC		Optional plug pack	-	Wired cable gland with plug pack	Cable gland with AC line cord	Potted AC Line Cord
DC	5-24 VDC	Rear connector	Barrel connector with plug pack	-	Cable gland without cord	3 pin LTW connector
DC	Battery	4 x AA battery option	4 x AA batteries	-	-	-
IP Rating		IP65 when panel mounted	-	IP55 full housing	IP66, IP68, NEMA4	IP66, IP68, IP69K, NEMA 4X
Packing Weights		0.25kg/ 9oz	0.42kg/ 14.8oz		3.8kg/ 8.4lbs	5.5kg/ 12.1lbs

Specifications may change at any time without notice.

Firmware Variants

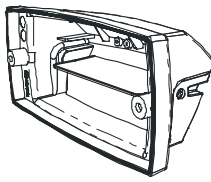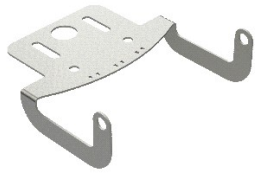|	Firmware Version	Standalone (K301)	All round (K304)	Advanced (K306)
Function Keys	Hold	Manual	+Peak	+Peak
	Counting	-	S	S
	Auto Tare	-	S	S
	Totalising	-	S	S
	Display Test	S	S	S
	High Res (x10)	S	S	S
	Quick Calibration	S	S	S
	Units Switching lb/ kg/ oz/ g / t/ TN/ lb:oz/custom (switching between up to three units plus counting)	S	S	S
	Multiple Tare (enhanced)	S	S	S
	Medical hold	-	S	S
	Multi color backlight	-	S	S
	QA Date	-	S	S
	mV/V Calibration	-	S	S
	Clock Calendar	-	S	S
	Remote Inputs	-	2	2
	Isolated Outputs	-	2	2
	Custom AUTO/SINGLE Output	S	S	S
	Ring Network rinCMD	A	S	S
	SIMPLE Network emulation	-	S	S
	Printing	-	Programmable	
	RS232 onboard	-	2	2
	Extra Serial Port(%) – Card (#) RS232, RS485, 20mA LOOP	A	A	A
	Livestock Weighing	S	S	S
	Gravity Compensation	S	S	S
	Linearisation	S	S	S
	Mimic Mode	-	S	S
	Check Weighing (RGB Backlight)	-	S	S
	Set Points	-	Basic (8)	Adv (8)
	Analogue Output Card	-	-	A
	Alibi WELMEC 7.2 (DSD)	-	S	S
	Programmable DSD CSV Log (#)	*-*	*-*	*S*
	Bluetooth/WIFI (*)	*A*	*A*	*A*
	Li-ion battery (*)	*A*	*A*	*A*
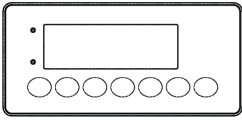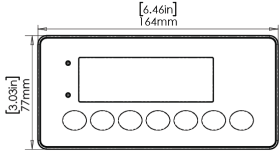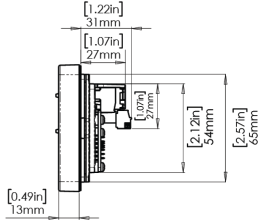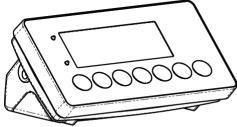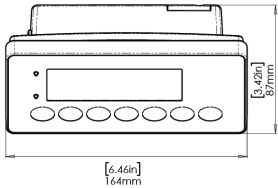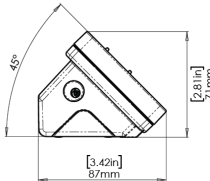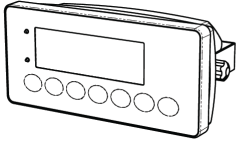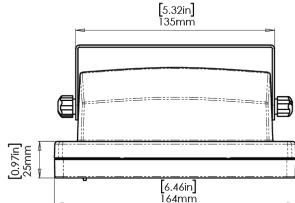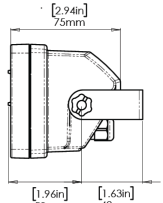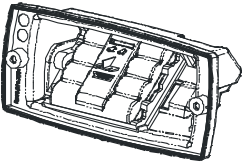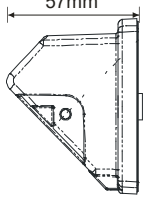
S - Standard Accessory

A - Optional Accessory

(*) - Accessory under development

(#) - Readable via the registers

(%) - Can be used to extend the capability of K301 Firmware with added comms

C320 Panel Mount

[6.46in] 164mm
[3.03in] 77mm
[1.22in] 31mm
[1.07in] 27mm
[1.07in] 27mm
[2.12in] 54mm
[2.57in] 65mm
[0.49in] 13mm

C320-G with AA Battery Boot, Desk Stand and Plug Pack

[3.42in] 87mm
[6.46in] 164mm
45°
[2.81in] 71mm
[3.42in] 87mm

C320-H with Fully Sealed Boot, Plug Pack and Stainless Steel Bracket

[5.32in] 135mm
[2.94in] 75mm
[0.97in] 25mm
[6.46in] 164mm
[1.96in] 50mm
[1.63in] 42mm

C320 Black Boots	
[2.2in] 57mm	[2.4in] 62mm
M6001	**M6003**

C320 Brackets		
M3014	**M3002**	**M3021**

Specifications are subject to variation for improvement without notice. Illustrations are indications only and variation may be evident between products.