680 Synergy Series Digital Weight Indicator

RICE LAKE®
WEIGHING SYSTEMS

Standard Features

- LED display
- Battery backed time and date
- Full numeric keypad
- Multiple communication ports
- Eight setpoint, 22 configurable types
- Numeric keyed entry for tare and setpoint entry
- Formattable tickets
- Four onboard configurable digital I/O points, TTL logic
- Local/remote

Options

- Analog output: 16-bit resolution, 0-10 VDC, 0-20 mA, 4-20 mA
- RJ45 Ethernet connector

Note: IP Rating is IP66 with RJ45 option. Rating is valid only when the cover is in place, not in use.

Approvals

NTEP

Measurement
Canada
Approved

NOM

OIML

OIML

CE

c(UL)us
LISTED

National
Measurement
Institute

UL
LISTED

IEC.

⚠ WARNING:
Cancer and
Reproductive
Harm
California
Proposition
65

The Next Generation of Digital Scale Indicators

Rice Lake's configurable 680 Synergy Series indicator combines powerful features found in advanced instrumentation with easy-to-use functions of more basic indicators. Designed with the customer in mind, the 680 is suitable for real-world, industrial environments. Tackle general purpose weighing, straightforward automation and a wide range of applications with the 680 Synergy Series.

Powerful Functions Backed by Advanced Communication

With eight setpoints and four digital I/O, the 680 can perform basic batching and filling operations. Design a multi-step procedure and run it automatically from beginning to end with the 680's configurable batch engine. Users can also customize printed tickets with formattable gross, net, setpoint and auxiliary print formats. The 680 also supports multiple onboard communication options, cutting costs and providing connection to multiple devices such as printers and computers.

Durable, IP69K Construction

Constructed with durable 304 stainless steel and able to withstand harsh wash-downs, the 680 maximizes process efficiency in virtually any environment or application. An IP69K rating ensures the 680 can stand up to high-pressure, high-temperature washdowns found in food processing environments.

680 Synergy Series Specifications

Power:
Line voltages: 100 to 240 VAC
Frequency: 50 to 60 Hz

Power Consumption:
2W (AC) 1 × 350 ohm load cell, 15W max

Excitation Voltage:
10 VDC (± 5 VDC), 8 × 350 ohm or 16 × 700 ohm load cells

Analog Signal Input Range:
-5 mV to +70 mV

Analog Signal Sensitivity:
1 µV/graduation recommended

A/D Sample Rate:
6.25 to 120 Hz, software selectable

Resolution:
Internal: 8,000,000 counts
Display: 1,000,000

System Linearity:
Within 0.01% full scale

Digital I/O:
Four configurable I/O - 5 V logic

(Optional) Analog Output:
16-bit resolution, voltage output 0-10 VDC, current output 0-20 mA/4-20 mA

Communication Ports:
Two full-duplex RS-232
RS-485/422 (five-wire)
Micro USB (device)
Ethernet TCP/IP (10/100)

Annunciators:
Eight LED annunciators

Display:
Seven 0.8 in tall, seven-segment digits

Keys/Buttons:
Flat membrane panel, tactile feel (18 buttons plus ON/OFF)

Dimensions:
(L × W × H)
11.58 × 4.05 × 8.57 in
(294 × 103 × 218 mm)

Temperature:
Certified: 14 °F to 104 °F (-10 °C to 40 °C)
Industrial: 14 °F to 122 °F (-10 °C to 50 °C)

Rating/Material:
IP69K (IP66 with RJ45)
AISI 304 stainless Steel

Weight:
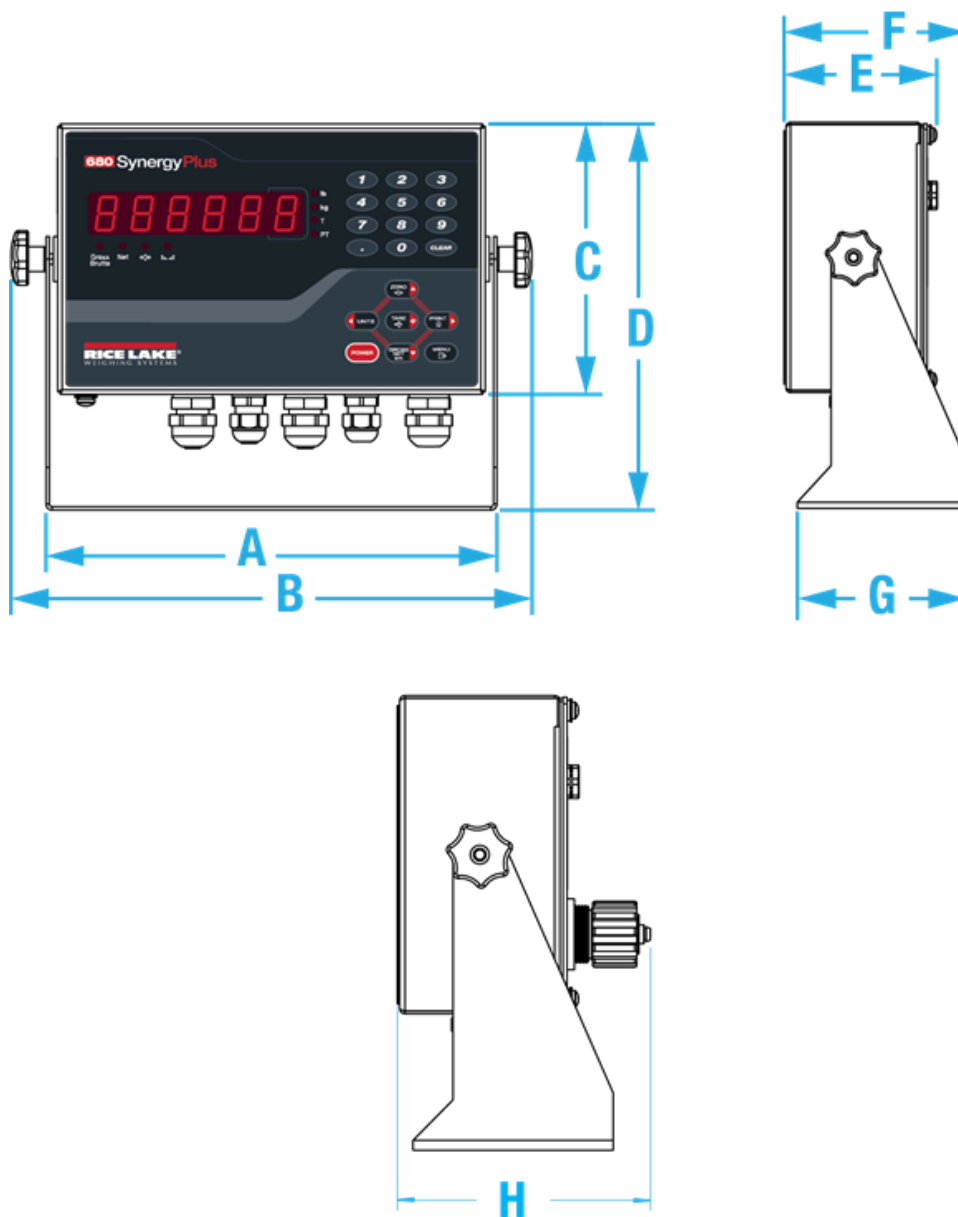6.25 lb (3 kg)

Warranty:
Two-year limited

EMC Immunity:
10 V/m

Approvals:
NTEP 19-021, Class III/IIIL, 10,000d
Measurement Canada AM-6121C
OIML R76/2006-A-NL1-19.56
EU Test Certificate TC11562
UKCA
CE Marked
cULus Listed

680 Synergy Series Dimensions

Dimensions				
A	10.02 in (255 mm)	E	3.40 in (86 mm)
B	11.58 in (294 mm)	F	4.05 in (103 mm)
C	6.00 in (152 mm)	G	3.80 in (97 mm)
D	8.57 in (218 mm)	H	4.74 in (120 mm)

Parts

Part #	Description
115-230 VAC	
193152	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply, US Power Cord
193153	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply, Europe Power Cord
196326	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply, UK Power Cord
196327	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply, AUS Power Cord
9-36 VDC (Not UL approved)	
193154	Indicator,680 Plus Universal LED Display, 9-36VDC Power Supply
With Analog Output Card	
195176	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply with Analog Option Card, US Power Cord
195177	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply with Analog Option Card, European Power Cord
196539	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply with Analog Option Card, UK Power Cord
196538	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply with Analog Option Card, AUS Power Cord
With External RJ45 Connector (IP rating is IP66 with RJ-45 option)	
200183	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply, US Power Cord With RJ-45
200184	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply, Europe Power Cord With RJ-45
200185	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply, UK Power Cord With RJ-45
200186	Indicator,680 Plus Universal LED Display, 115-230VAC Power Supply, AUS Power Cord With RJ-45

Options

Part #	Description
195084	Ind Opt,Analog Output 680 Series, Install Kit
151099	Panel,Mount Option 480/680 Indicator,Gasketed Non-NEMA Seal.
223864	Knob, Star M6x1.0 304 SST
195684	Board ASSY,Replacement 680 CPU with battery installed for field replacements
194477	Parts Kit,680/682 Indicators

Replacement Parts

Part #	Description

680 Plus

Part #	Description
193281	Power Supply,12V,15W Meanwell RS-15-12
192439	Bracket,Power Supply MeanWell 15 and 25 watt supplies
180842	Cable Assy,Power Cord, 10ft, SJTOW, 18 AWG / 3 Conductor, Nema 5-15P to Pigtail, UL Certified Power Supply Cord Label Required
180850	Power Cord ASSY,680 882D Belt Scale Integrator Europe CEE7/7
29635	Stand,Tilt SST
103988	Washer,Nylon .515 -.52 ID X 1.00 OD x .093 -.094 Thick White Nylon 6/6
180825	Knob,Star,5 or 7 Lobes, M6-1, Threaded Through, 32mm DIA, Nylon, SST Insert, Black
46381	Washer,Bonded Sealing SST #10 x .50 OD
150800	Screw,Machine M5-0.8x10 Phillips Pan Head A2 18-8 SST
187876	Nut,Lock M5 Nylon Insert A2 SST
180856	Washer,M4 Internal Tooth SST
15601	Wire ASSY,Ground 6 In. 16 AWG Green/Yellow Wire, w/#8 Eye Connector Both Ends
199474	Screw,MACH M3-0.5x5 Phillips Pan Head External Tooth Lock Washer SEMS Steel Zinc Plated
194488	Screw,MACH M4-0.7x6 Phillips Pan Head External Tooth Lock Washer SEMS Steel Zinc Plated
180826	Nut,Keps,Hex, M4 x 0.7 External Tooth 18-8 SST
16892	Label,Ground Protective Earth Adhesive IEC 60417-5019 (DB:2002-10)
53307	Label,4.000x2.875 PolyTrans 3000T Silver Polypropylene 3" Core 8" OD 1,810 LPR
15650	Mount,Cable Tie 3/4in Square Nylon
15631	Cable Tie,3in Nylon
191208	Board Assy, Synergy, Analog Output Board Only
194529	Standoff,Snap-Lock 5/8 0.625 x 0.125 Through-Hole, 0.062 Board Thickness

680 Plus Enclosure Assembly Parts

Part #	Description
190142	Enclosure,680 Plus Indicator Multi-Segment LED Display
190230	Overlay,680 Plus Indicator Membrane Switch with Numeric Keys Multi-Segment LED Display
15626	Cord Grip,PG9 Black Clamping Range .138 - .315 Nut: 15627. Torque at 3.75Nm (33.19 inch lbs.)
15627	Locknut,Black PCN9 Used on PG9 Cord Grips. (PN 15626)
30375	Seal Ring,Nylon PG9 .59 ID X .75 OD X .08
68600	Cord Grip,PG11 Black For Cable OD .20" - .39"
68601	Nut,PG11 Cord Grip Black Nylon

Part #	Description
68599	Seal Ring,Nylon PG-11
84388	Gasket,Backplate 680 682 CW90, CW90X, 320IS, 420 indicators
192562	Backplate,680 Universal with Gore Vent, no options
193108	Setup Switch ASSY,Remote 680 682
46381	Washer,Bonded Sealing SST #10 x .50 OD
180861	Screw,Machine M5-0.8x10 Slotted Drilled Cheese Head A2 18-8 SST Torque at 10 in-lbs
88733	Vent,Breather Sealed Goretex Membrane in black molded plastic chassis Gore IP69K rated
88734	Nut,Breather Vent molded plastic for PN-88733
75062	Washer,Bonded Sealing #8 7/16 (.4375) OD SST
193230	Screw,Machine M4-0.7x10 Phillips Pan Head A2 18-8 SST
193337	Cable Assy, Power Harness, 2 POS, Flying Lead, 680
199474	Screw,MACH M3-0.5x5 Phillips Pan Head External Tooth Lock Washer SEMS Steel Zinc Plated
71408	Battery,Lithium CR2032 3 Volt for Welding Helmet, Metal
196109	Shield,ESD Lens 680 6.25 x 2.13 inches
195684	Board ASSY,Replacement 680 CPU with battery installed for field replacements