

680 Synergy Series Digital Weight Indicator

RICE LAKE
WEIGHING SYSTEMS

As of: Thursday, March 6, 2025



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



Measurement
Canada
Approved



National
Measurement
Institute



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

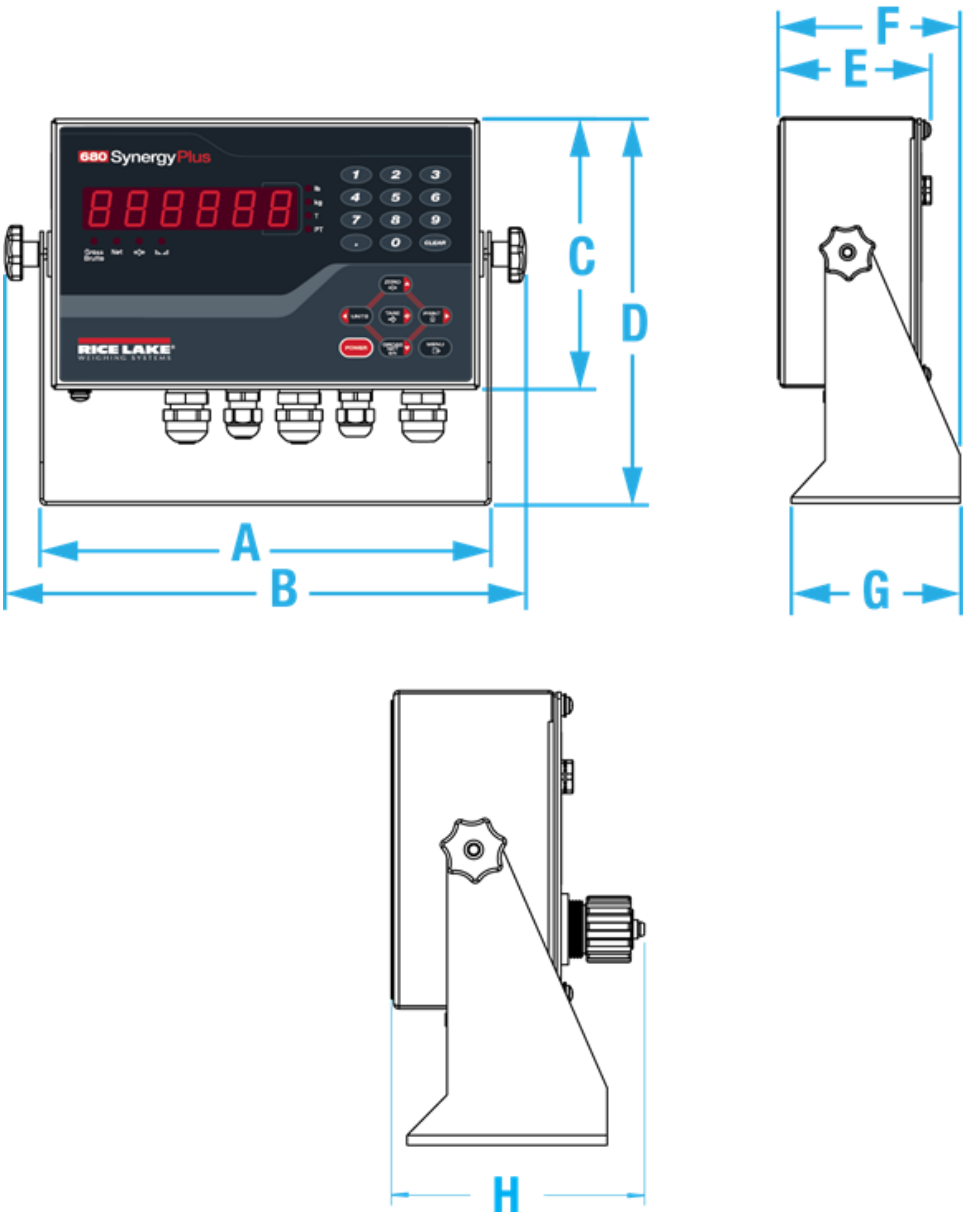
EMC Immunity:

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

www.ricelake.com | 800-472-6703

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