



Technical Data

Accuracy: Refer to the list of specifications

| | | |
|-------------|-----------------------|--------------------------------------|
| Resolution: | 0.01mm type | 0.01mm |
| | 0.001mm type* | 0.001mm/0.01mm |
| | .0005"/0.01mm type | .0005"/0.01mm |
| | .00005"/0.001mm type* | .0005"/.0001"/.00005"/0.01mm/0.001mm |

* Switchable resolution

Display: LCD

Length standard: ABSOLUTE electrostatic capacitance type linear encoder

Max. response speed: Unlimited

Measuring force: Refer to the list of specifications

Battery: SR44 (1 pc.), **938882**

Battery life: Approx. 5,000 hours under normal use

Dust/Water protection level: IP42 or IP53 (dust-proof type)

Function

Origin-set/Preset, Zeroset, GO/±NG judgment, Counting direction switching, Power ON/OFF, Data output, inch/mm conversion (on inch/metric models only)

Alarm: Low voltage, Counting value composition error,

Over-flow error, Tolerance limit setting error

Internal calculations using the simple formula of $[F(x) = Ax]$ are available.

Optional Accessories

905338: SPC cable (40" / 1m)

905409: SPC cable (80" / 2m)

21EZA198: Spindle lifting lever (ISO/JIS type)*

21EZA199: Spindle lifting lever (ANSI/AGD type)*

21EZA105: Spindle lifting knob (12.7mm/.5" ISO/JIS type)**

21EZA150: Spindle lifting knob (12.7mm/.5" ANSI/AGD type)**

21EZA197: Spindle lifting knob (25.4mm/1", 50.8mm/2" models)

21EZA200: Spindle lifting knob (50.8mm/2")

540774: Spindle lifting cable (stroke: 1" / 25.4mm)

02ACA571: Auxiliary spindle spring for 25mm/1" models***

02ACA773: Auxiliary spindle spring for 50mm/2" models***

—: Backs (See page F-33.)

—: Contact points (See page F-34.)

* Can be used on 12mm/.5" models only.

** Not available for low measuring force models.

*** Required when orienting gage upside down.

ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — Standard Type

FEATURES

- As compact as standard Series 2 dial indicators.
- Large, easy-to-read LCD.
- GO/±NG judgment can be performed by setting upper and lower tolerance limits. The judgment result (GO/±NG) can be displayed in full-size characters.
- The positive/negative count resulting from the spindle's up/down movement can be toggled.
- Internal calculations using the simple formula of $[F(x) = Ax]$ are available.
- Employing the ABSOLUTE linear encoder, the ID-C always displays the spindle "Absolute Position" from the origin at power-on. Also unlimited response speed eliminates over-speed errors.
- The ID-C indicator face can be rotated 330° to an appropriate angle for easy reading.
- With SPC data output.



543-392



543-402



543-472B



543-492B

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SPECIFICATIONS

| Inch/Metric | | Stem dia. 3/8", #4-48 UNF Thread | | ISO/JIS type | ANSI/AGD type | | |
|------------------|--------------|----------------------------------|----------|--------------|---------------|-----------------|---------------------|
| Resolution | Range | Order No. (w/lug, flat-back) | | Model | Accuracy | Measuring force | Remarks |
| .00005"/0.001mm* | .5" / 12.7mm | 543-392 | 543-392B | ID-C112EXB | .0001" | 1.5N or less | — |
| .00005"/0.001mm* | .5" / 12.7mm | 543-396 | 543-396B | ID-C112CEX | .0001" | 0.4N - 0.7N | Low measuring force |
| .00005"/0.001mm* | 1" / 25.4mm | — | 543-472B | ID-C125EXB | .0001" | 1.8N or less | — |
| .00005"/0.001mm* | 2" / 50.8mm | — | 543-492B | ID-C150EXB | .0002" | 2.3N or less | — |
| .0005"/0.01mm | .5" / 12.7mm | 543-402 | 543-402B | ID-C1012EX | .001" | 0.9N or less | — |
| .0005"/0.01mm | .5" / 12.7mm | 543-406 | 543-406B | ID-C1012CEX | .001" | 0.2N - 0.5N | Low measuring force |
| .0005"/0.01mm | 1" / 25.4mm | — | 543-476B | ID-C1025EXB | .001" | 1.8N or less | — |
| .0005"/0.01mm | 2" / 50.8mm | — | 543-496B | ID-C112CEXB | .0016" | 2.3N or less | — |

* Switchable Resolution Type

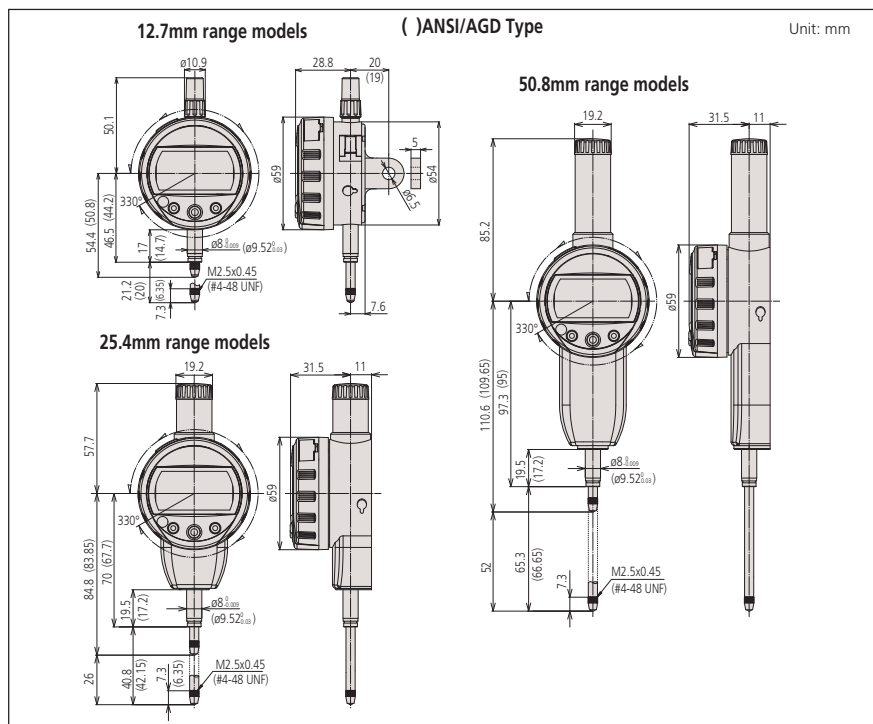
| Inch/Metric | | Stem ø 8mm, M2.5 x 0.45 Thread | | | | | |
|------------------|--------------|---------------------------------|----------|-------------|----------|--------------------|---------------------|
| Resolution | Range | Order No. (w/lug, flat-back) | | Model | Accuracy | Measuring force | Remarks |
| .00005"/0.001mm* | .5" / 12.7mm | 543-391 | 543-391B | ID-C112MX | .0001" | 1.5N or less | — |
| .00005"/0.001mm* | .5" / 12.7mm | 543-395 | 543-395B | ID-C112CMX | .0001" | 0.4N - 0.7N | Low measuring force |
| .00005"/0.001mm* | 1" / 25.4mm | — | 543-471B | ID-C125MXB | .0001" | 1.8N or less | — |
| .00005"/0.001mm* | 2" / 50.8mm | — | 543-491B | ID-C150MXB | .0002" | 2.3N or less | — |
| .0005"/0.01mm | .5" / 12.7mm | 543-401 | 543-401B | ID-C1012MX | .001" | 0.9N or less | — |
| .0005"/0.01mm | .5" / 12.7mm | 543-405 | 543-405B | ID-C1012CMX | .001" | 0.2N - 0.5N | Low measuring force |
| .0005"/0.01mm | 1" / 25.4mm | — | 543-475B | ID-C1025MXB | .001" | 1.8N or less | — |
| .0005"/0.01mm | 2" / 50.8mm | — | 543-495B | ID-C1050MXB | .0016" | 2.3N or less | — |

* Switchable Resolution Type

| Metric | | Stem ø 8mm, M2.5 x 0.45 Thread | | | | | |
|------------|--------|---------------------------------|----------|------------|----------|--------------------|---------------------|
| Resolution | Range | Order No. (w/lug, flat-back) | | Model | Accuracy | Measuring force | Remarks |
| 0.001mm* | 12.7mm | 543-390 | 543-390B | ID-C112X | 0.003mm | 1.5N or less | — |
| 0.001mm* | 12.7mm | 543-394 | 543-394B | ID-C112CX | 0.003mm | 0.4N - 0.7N | Low measuring force |
| 0.001mm* | 25.4mm | — | 543-470B | ID-C125XB | 0.003mm | 1.8N or less | — |
| 0.001mm* | 50.8mm | — | 543-490B | ID-C150XB | 0.006mm | 2.3N or less | — |
| 0.01mm | 12.7mm | 543-400 | 543-400B | ID-C1012X | 0.02mm | 0.9N or less | — |
| 0.01mm | 12.7mm | 543-404 | 543-404B | ID-C1012CX | 0.02mm | 0.2N - 0.5N | Low measuring force |
| 0.01mm | 25.4mm | — | 543-474B | ID-C1025XB | 0.03mm | 1.8N or less | — |

* Switchable Resolution Type

DIMENSIONS



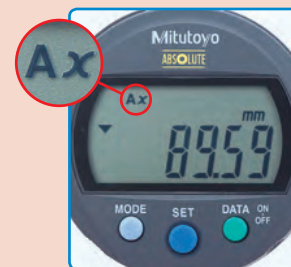
330° Rotary display

The display can be rotated 330°, allowing use at a position where you can easily read the measurement value.



Calculation: f(x) = Ax

Mounting the ID-C on a measuring jig and setting the multiplying factor 'A' (to any value) allows direct measurement without using a conversion table and improves measurement efficiency.



Application example

Function locking

Ensures reliability of measurement by locking the settings to prevent preset function settings from being changed by mistake.



Setting measuring force on low measuring force models

•543-404/404B/405/405B/406/406B

| Spindle orientation | Spring | Weight (approximately 0.1N) | Maximum measuring force |
|------------------------------|--------|-----------------------------|-------------------------|
| Pointing vertically downward | Yes | Yes | 0.5N |
| | Yes | No | 0.4N |
| | No | Yes | 0.3N |
| | No | No | 0.2N |
| Horizontal | Yes | No | 0.2N |

Note) Operation using configurations other than shown above is not guaranteed.

•543-394/394B/395/395B/396/396B

| Spindle orientation | Spring | Weight (approximately 0.1N) | Maximum measuring force |
|------------------------------|----------------|-----------------------------|-------------------------|
| Pointing vertically downward | Yes | Yes | 0.7N |
| | Yes | No | 0.6N |
| | No | Yes | 0.4N |
| | No | No | Not guaranteed |
| Horizontal | Not guaranteed | | |

Note) Operation using configurations other than shown above is not guaranteed.



Technical Data

Accuracy: Refer to the list of specifications
 Resolution: 0.0002mm - 1mm or
 .00001" - .05"/0.0002mm - 1mm
 Display: LCD
 Length standard: ABSOLUTE electrostatic capacitance type
 linear encoder
 Max. response speed: Unlimited
 Measuring force: 1.5N or less
 Battery: SR44 (1 pc.), **938882**
 Battery life: Approx. 12 months under normal use

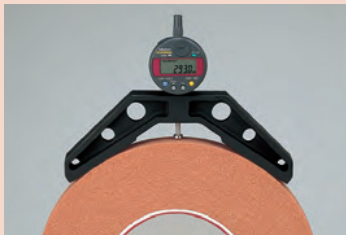
Function

Origin-set/Preset, Zeroset, GO/±NG judgment, Counting
 direction switching, Power ON/OFF, Data output,
 inch/mm conversion (on inch/metric models only)
 Alarm: Low voltage, Counting value composition error,
 Over-flow error, Tolerance limit setting error

Optional Accessories

905338: SPC cable (40" / 1m)
905409: SPC cable (80" / 2m)
902011: Spindle lifting lever (ISO/JIS type)
540774: Spindle lifting cable (Stroke: .4" / 10mm)
 ———: Backs (See page F-33.)
 ———: Contact points (See page F-34.)

APPLICATIONS



- Various fixtures suited for individual workpieces can be prepared.
- Measuring accuracy is subject to fixture accuracy

ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — Calculation Type

FEATURES

A conventional Digimatic indicator simply displays a spindle displacement, but the Calculation-Type Digimatic indicator incorporates an internal calculation function in place of spindle displacement. With fixtures, measurements such as feeler, inside diameter and radius of curvature measurement can easily be obtained without the hassle of conversion tables or equivalents.

- The Absolute Digimatic indicator performs internal calculations using the formula $Ax+B+Cx^{-1}$ (assuming spindle displacement as x) while the specified coefficients A, B and, C can be set with respect to the purpose of measurement or dimensions of the fixtures. This unique features allows you to read your measurements directly, without fumbling for conversions.



543-287B

SPECIFICATIONS

ISO/JIS type ANSI/AGD type

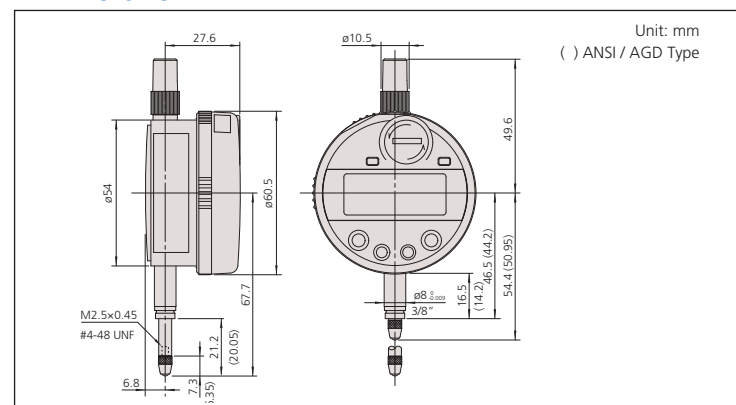
| Inch/Metric | | Stem dia. 3/8" #4-48 UNF Thread | | | |
|---|--------------|---------------------------------|------------|----------|-----------------|
| Resolution | Range | Order No.* | Model | Accuracy | Measuring Force |
| .00001" - .05"/ 0.0002 - 1mm (switchable) | .5" / 12.7mm | 543-287B | ID-C112REB | .00012" | 1.5N or less |
| | 1" / 25.4mm | 543-482B | ID-C125REB | .00012" | 2.0N or less |
| | 2" / 50.8mm | 543-487B | ID-C150REB | .00025" | 2.3N or less |

| Inch/Metric | | Stem ø 8mm, M2.5 x 0.45 Thread | | | |
|---|--------------|--------------------------------|------------|----------|-----------------|
| Resolution | Range | Order No.* | Model | Accuracy | Measuring Force |
| .00001" - .05"/ 0.0002 - 1mm (switchable) | .5" / 12.7mm | 543-286B | ID-C112RMB | .00012" | 1.5N or less |
| | 1" / 25.4mm | 543-481B | ID-C125RMB | .00012" | 2.0N or less |
| | 2" / 50.8mm | 543-486B | ID-C150RMB | .00025" | 2.3N or less |

| Metric | | Stem ø 8mm, M2.5 x 0.45 Thread | | | |
|------------------------------|--------|--------------------------------|-----------|----------|-----------------|
| Resolution | Range | Order No.* | Model | Accuracy | Measuring Force |
| 0.0002 - 1mm (switchable) | 12.7mm | 543-285B | ID-C112RB | 0.003mm | 1.5N or less |
| | 25.4mm | 543-480B | ID-C125RB | 0.003mm | 2.0N or less |
| | 50.8mm | 543-485B | ID-C150RB | 0.006mm | 2.3N or less |

*Flat back

DIMENSIONS



Mitutoyo

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Technical Data

Accuracy: Refer to the list of specifications
Resolution: 0.001mm, .00005"/0.001mm or .0001"/0.001mm
Display: LCD
Length standard: ABSOLUTE electrostatic capacitance type linear encoder
Max. response speed: Unlimited
Measuring force: 1.5N or less
Battery: SR44 (2 pcs.), **938882**
Battery life: Approx. 800 - 1300 hours under normal use
Dust/Water protection level: IP42

Function

Origin-set/Preset, Zeroset, GO/±NG judgment, Max/Min/Runout value holding, Counting direction switching, Power ON/OFF, Data output, inch/mm conversion (on inch/metric models only)
Alarm: Low voltage, Counting value composition error, Over-flow error, Tolerance limit setting error

Optional Accessories

905338: SPC cable (40" / 1m)
905409: SPC cable (80" / 2m)
902011: Spindle lifting lever (ISO/JIS type)
902794: Spindle lifting lever (ANSI/AGD type)
540774: Spindle lifting cable (stroke: .4" / 10mm)
—: Backs (See page F-33.)
—: Contact points (See page F-34.)

ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — with Max./Min. Value Holding Function

With max./min. value holding function model of the ID-C Series Digimatic Indicators.

FEATURES

- The maximum, minimum, or runout value can be displayed during measurement.
- GO/±NG judgment is performed by setting the upper and lower tolerances for max., min. and runout values.
- High speed sampling ratio of 50 times/s.
- Employing the ABSOLUTE linear encoder, the Signal ID-C always displays the spindle "Absolute Position" from the origin at power-on.



SPECIFICATIONS

| Inch/Metric | | Stem dia. 3/8" #4-48 UNF Thread | | |
|-----------------|--------------|---------------------------------|-----------|----------|
| Resolution | Range | Order No.* | Model | Accuracy |
| .00005"/0.001mm | .5" / 12.7mm | 543-262 | ID-C112AE | .00012" |
| .0001"/0.001mm | .5" / 12.7mm | 543-263 | ID-C112AT | .00012" |

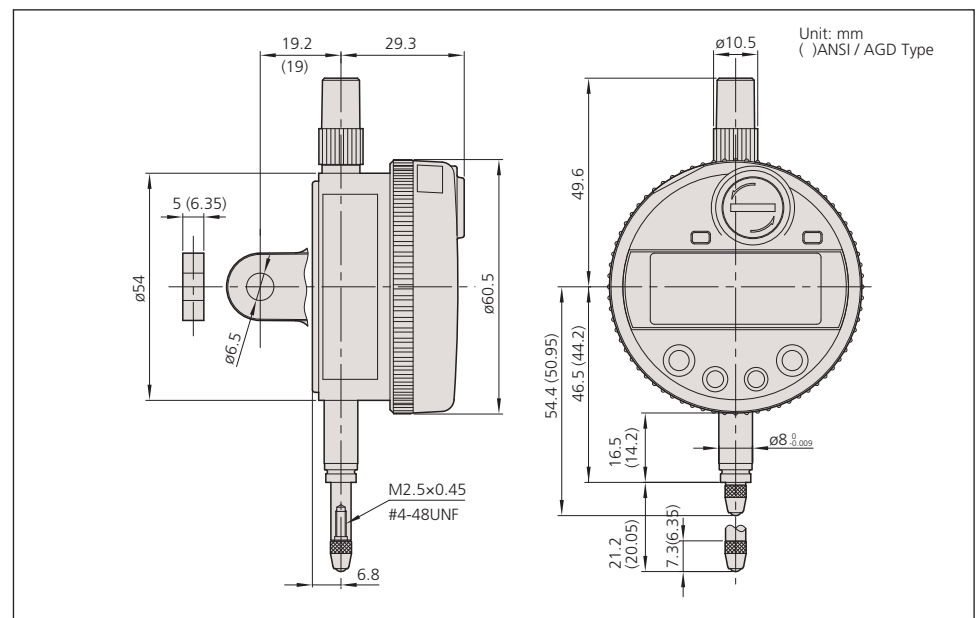
| Inch/Metric | | Stem ø 8mm, M2.5 x 0.45 Thread | | |
|-----------------|--------------|--------------------------------|-----------|----------|
| Resolution | Range | Order No.* | Model | Accuracy |
| .00005"/0.001mm | .5" / 12.7mm | 543-261 | ID-C112AM | .00012" |

*Back with lug

| Metric | | Stem ø 8mm, M2.5 x 0.45 Thread | | |
|------------|--------|--------------------------------|----------|----------|
| Resolution | Range | Order No.* | Model | Accuracy |
| 0.001mm | 12.7mm | 543-260 | ID-C112A | 0.003mm |

*Back with lug

DIMENSIONS



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ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — Specially Designed for Bore Gage Application

This ID-C Series Digimatic Indicators are exclusively designed for ID measurement.

FEATURES

- The minimum value holding function provides the easy of detection of hole diameter.
- An analog bar indicator is integrated to enhance the intuition in reading.
- GO/±NG judgment is performed by setting the upper and lower tolerances.
- Up to three sets of master value and upper/lower tolerance value can be memorized.
- Employing the ABSOLUTE linear encoder, the Signal ID-C always displays the spindle "Absolute Position" from the origin at power-on.



SPECIFICATIONS

ISO/JIS type ANSI/AGD type

Inch/Metric Stem dia. 3/8" #4-48 UNF Thread

| Resolution | Range | Order No.* | Model | Accuracy |
|-----------------|--------------|------------|-----------|----------|
| .00005"/0.001mm | .5" / 12.7mm | 543-266B | ID-C112GE | .00012" |
| .0001"/0.001mm | .5" / 12.7mm | 543-267B | ID-C112G | .00012" |

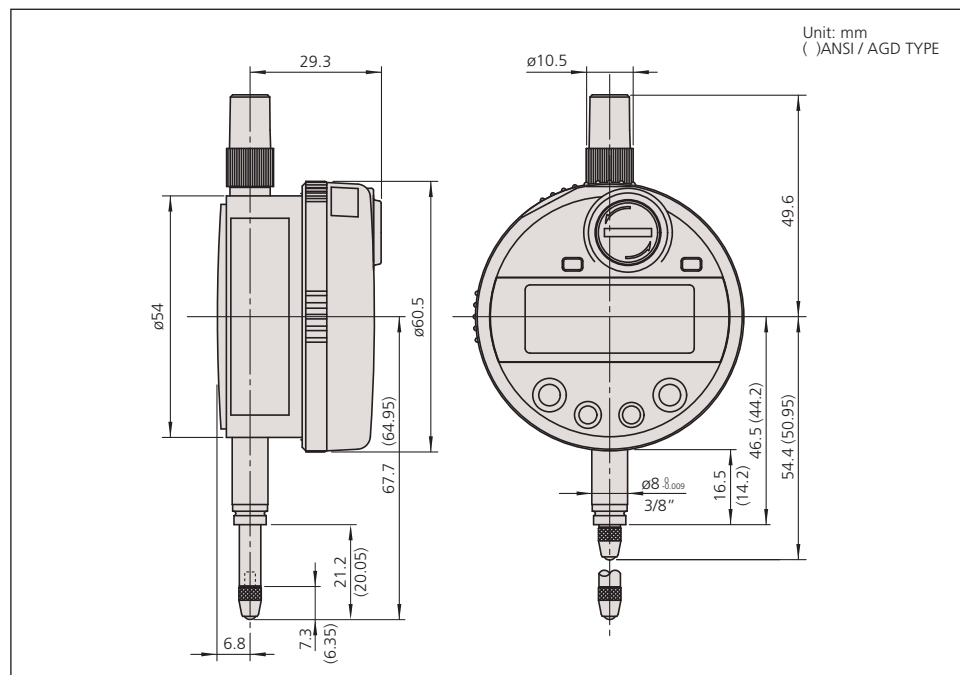
*Back with lug

Metric Stem ø 8mm, M2.5 x 0.45 Thread

| Resolution | Range | Order No.* | Model | Accuracy |
|------------|--------|------------|----------|----------|
| 0.001mm | 12.7mm | 543-264B | ID-C112G | 0.003mm |

*Back with lug

DIMENSIONS



SPC

ABSOLUTE
Absolute System Patented by MITUTOYO

Technical Data

Accuracy: Refer to the list of specifications
Resolution: 0.001mm or .00005"/0.001mm
Display: LCD
Length standard: ABSOLUTE electrostatic capacitance type linear encoder
Max. response speed: Unlimited
Measuring force: 1.5N or less
Battery: SR44 (2 pcs.), **938882**
Battery life: Approx. 2000 hours under normal use
Dust/Water protection level: IP42

Function

Origin-set/Preset, Zero-set, GO/±NG judgment, Power ON/OFF, Data output, inch/mm conversion (on inch/metric models only)
Alarm: Low voltage, Counting value composition error, Over-flow error, Tolerance limit setting error

Optional Accessories

905338: SPC cable (40" / 1m)
905409: SPC cable (80" / 2m)
Applicable Gages Series 511 and 526



Installed on bore gage probe (511-127)