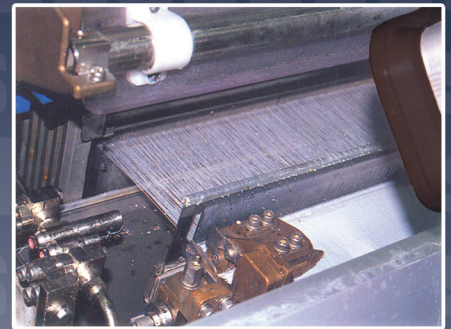
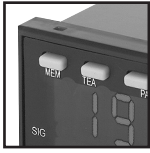


SHIMPO INSTRUMENTS SPEED MEASUREMENT

tachometers /stroboscopes /panel meters /sensors /and more

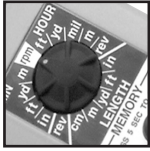


SHIMPO
A Nidec Group Company



Application in Process & Control / 3 - 5

Information, application and uses for Tachometers, Counters, Sensors and Stroboscopes.



Laser Contact / Non Contact & Contact Only Tachometers / 6 - 12

USB compatible (DT-209X). All metal digital handheld tachometers with rate, length and memory functions; monitors rpm, meters/ min, yd/min, ft/min, in/min, in, ft, yds, meters and more!



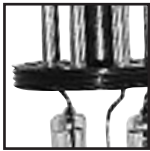
Tachometer Accessories / 13

Reflective tape, precision wheels, carry cases and contact adapters for rate and length measurement.



Digital Stroboscopes / 14 - 22

Rugged digital stroboscopes feature battery and line voltage operation, phase shifting, flash delay, and internal/external triggering.



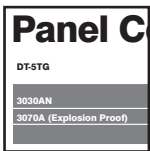
Strobe Accessories / Compatibility Chart / 23

Flashtubes, swing arm, strobe guards and sensors.



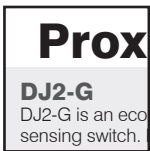
Panel Mount Tachometers / 24-30

Rugged accurate panel tachometers, process timers and counters, accept a variety of NPN sensors.



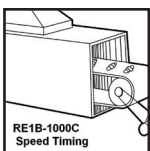
Panel Tachometer & Counter Accessories Chart / 31

Cross reference for panel meters / sensors and relay module compatibility.



Sensors / Encoders / 32-36

Sensor and encoder specifications.



Application Notes / 37-39

Application specifications and notes.

Tachometers and Stroboscopes for Speed & Motion Analysis

Certified Accuracy for Speed Measurement (RPM, Rate, Length) and Vision Inspection

Rugged construction, unwavering accuracy and attention to detail have made the Shimpo handheld contact and combination Laser Tachometers and Stroboscopes the bench mark for all others to measure themselves against. Accuracy is critical, yet easily obtained with all Shimpo instruments. Equipped with standard N.I.S.T. traceable certificates, Shimpo tachometers are in a class by themselves. When it comes to speed and motion analysis in industrial, military, field and laboratory use, "Shimpo" contact and contact/non-contact Tachometers and Stroboscopes with up to 16 different units of measure, are the units technicians and engineers request the most.

Tachometers are available with either a bright red LED display or LCD display. No other manufacturer of hand Tachometers provides the end user with more useful features than Shimpo. The LED units (DT-107A and DT-207L) are designed for low ambient light conditions. The LCD units (DT-105A and DT-205L) are designed for factory, outside or laboratory light conditions.

Shimpo's line of Tachometers and Stroboscopes are extremely durable and designed to meet the challenges of remote operation, harsh environments, and rough everyday usage. Equipped with a handy 1/4" x 20 threaded hole for tripod/mounting, these already rugged instruments enable hands free operation.

Handheld Tachometers

Motor Speed/Conveyor Speed/Fan Speed/Length Measurements

Measure RPM of motors or shafts, either contact or non-contact with Laser style combination tachometer.

Safely measure RPM (non-contact) up to 14 feet away!

Measure and convert actual linear: (feet, yards, inches, meters, or centimeters) of paper, wood or other conveyed product as it travels on conveyors.

Measure total number of revolutions of a shaft or number of pulses of reciprocating equipment.

Measure and record last, max, min and up to 10 readings using up to 16 different units of measure

Measure fan speed (non-contact) by dividing the reading by the number of blades.

Measure and record speed of output vs. input shaft for process control of web feeding.

Measure and record PTO speed for monitoring pump or engine performance.

Handheld Stroboscopes

While in motion, inspection of gear tooth wear and timing (through mesh machine guards).

Evaluate spray pattern of fuel injectors, paint, or other aerosol dispensers.

Color and print registration inspection on rotogravure web (printing) presses.

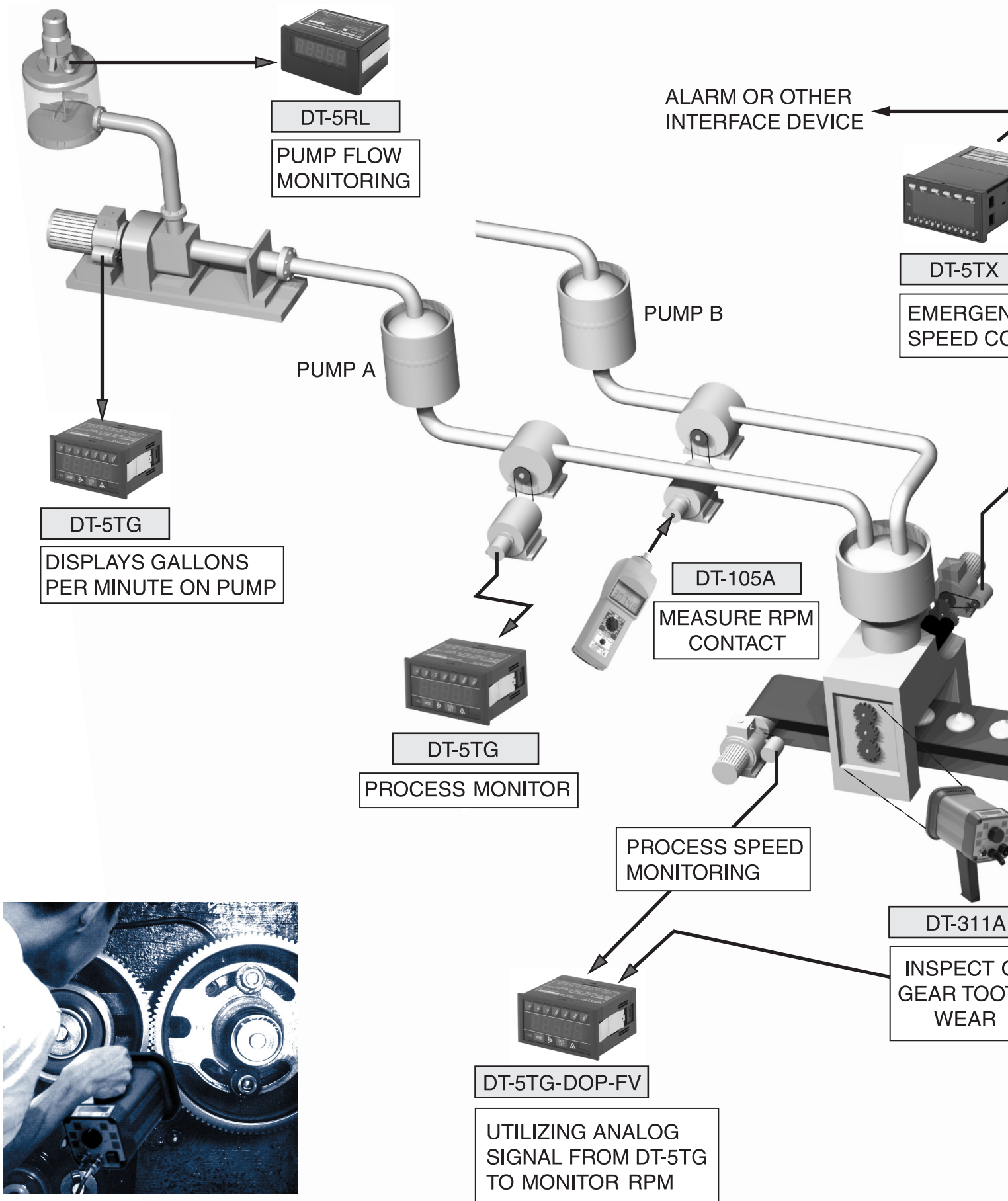
Visual inspection of machinery for proper timing and alignment.

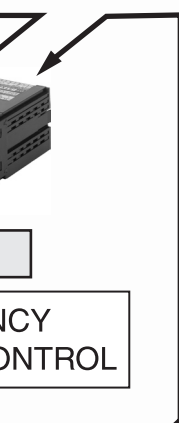
With Phase Shift activated, visual inspection of moving components in relation to degrees before top dead center (BDTC) or after top dead center (ATDC).

Machinery timing adjustments that advance or retard with Phase Shift in degree or mSec flash timing while maintaining set flash rate.

With machine guards in place, measure RPM where a tachometer is impractical or unsafe to use.

Using external sensors or signal input from machines, visual inspections of moving machinery is possible-again using Phase Shifting for detailed examinations.





ON LINE
MONITORING



MONITORING
CONVEYOR SPEED

DT-5TS



DISPLAY PACKAGING
FILM USAGE IN LENGTH

DT-6CG



CONTINUOUS
MONITORING
RPM OF
CONVEYOR
DRIVE SHAFT

DT-205L
+
DT-209X



OF
TH



DT-5TG

DISPLAY OF SPEED OF
CONVEYOR MOTORS



DT-6CG-PS

MONITORING AND CONTROLLING
NUMBER OF PRODUCTS ON
CONVEYOR AT PRESET NUMBER

MONITORING
TOTAL LENGTH

DT-107A-S12



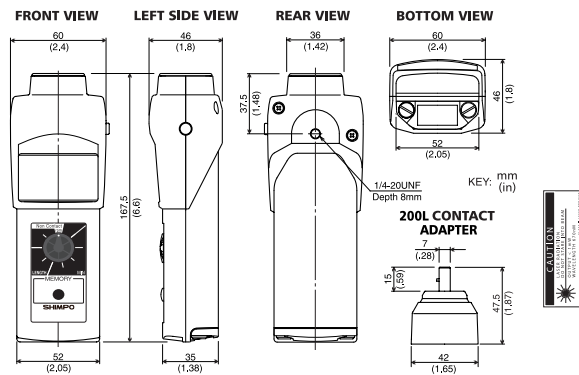
DT-209X DT-209X-S12

Big things come in small packages

Demanded by loyal users of the popular DT-205L laser tachometers, Shimpo responded by creating the DT-209X series of LASER combination hand held tachometers. Based on the DT-205L with its rugged construction and quality components; the DT-209X is equipped with DATA COLLECTION features that adds flexibility in the field for Maintenance, Quality Control and R&D professionals.

Simultaneous storage of data in three different measuring modes (USB, Standard, and Average) both the DT-209X and DT-209X-S12 offer incredible value and ease of use in Contact and Non-contact applications.

Enhanced download features and online controls, showing trending and real time data via USB communication; you can easily access your data by the free software included in each DT-209X package. USB and Analog output included.



Specifications

MODEL	DT-209X / DT-209X-S12
MEASURING RANGE NON-CONTACT	6 - 99,999 rpm
MEASURING RANGE CONTACT	0.8 - 25,000 rpm
ACCURACY	±1 rpm: 6 - 8,300 rpm / ±2 rpm: 8,301 - 25,000 rpm / ±0.006 % of reading / ±1 digit (or 7 rpm max.): 25,001 - 99,999 rpm
DISPLAY	5 digit 0.47" (12 mm) high LCD
MEASURING UNIT	rpm: (Non Contact up to 14' away) Contact: ypm, mPM, fpm, ipm and Length; yd, m, ft, in, linear rate and length: using contact adapter included and 6" or 12" circumference wheels.
MEASURING MODE	USB mode; PC online measuring / standard (STD) mode; Standard measuring / Average (AVE) mode; Average data measuring
MEMORY	STD mode; 24 blocks, 10 points/block (Total; 240 data) AVE mode; 30 blocks (Last, Max, Min, Average data in each block) Date and hour of start/finish are stored in each block. (Can download data with USB communication.)
USB COMMUNICATION	USB 1.1
ANALOG OUTPUT	Max. 1 V
DISPLAY UPDATE TIME	1 second (typical)
DETECTION	Laser diode
SYSTEM CONTROL	Single-chip C-MOS microprocessor
OVER RANGE INDICATOR	Flashing numerals
VOLTAGE REQUIREMENT	2 AA / 1.5 V Batteries
LOW BATTERY INDICATOR	Flashing "LO BAT" display
AUTO POWER SHUT-OFF	Yes (except USB mode)
BATTERY LIFE	15 hrs Approx.
OPERATING ENVIRONMENT	Non-corrosive
OPERATING TEMPERATURE RANGE	32° - 113°F (0 - 45°C)
CONSTRUCTION	Die-cast aluminum housing
WEIGHT	DT-209X: 0.9 pound (400g) / DT-209X-S12: 1.0 pound (460g)
DIMENSIONS	6.6"L x 2.4"W x 1.8"H (167.5 mm x 60 mm x 46 mm)
WARRANTY	1 year
STANDARD ACCESSORIES	Reflective tape, 2 cone adapters, funnel adapter, 3 1/2" Extension shaft carrying case, NIST certificate, Master Wheel (6" cir.) and 200L adapter, USB cable, Application software (CD-R)



Features

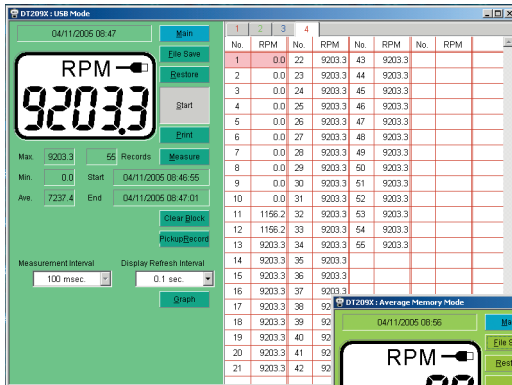
- 1/4 x 20 mounting hole
- Sophisticated laser beam detection; up to 14'
- Exceptional accuracy
- Length and rate functions
- Multi-mode speed selection
- Length/sec available
- Hardy aluminum construction
- Large 5 digit display
- Expansive memory capacity
- Extended battery life
- Free N.I.S.T. certificate

Also Available



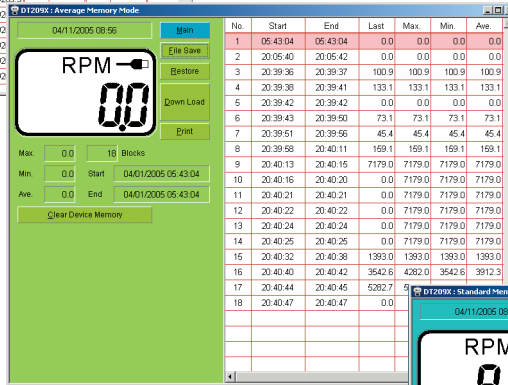
DT-209X shown in Carrying Case. 12" wheel FPM-12 & FPM-12CBL.

DT-209X Software



USB Mode

Direct monitoring with data collection.

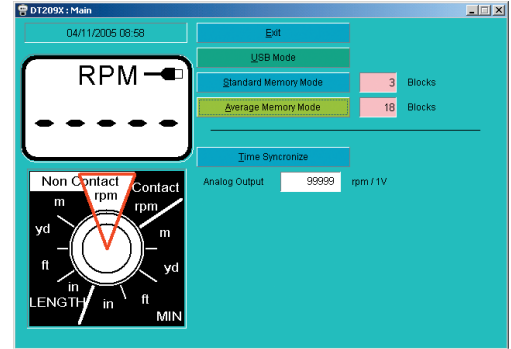


Average Mode

Showing last, max, min, AVG reading over time (selectable).

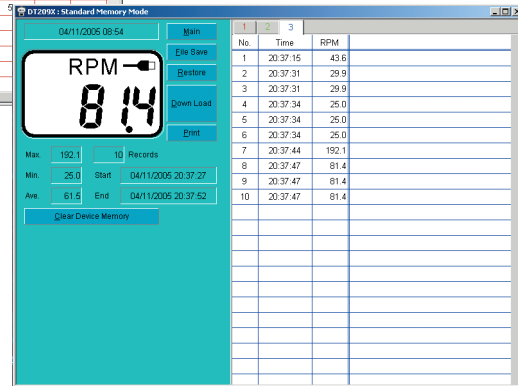
Graph

Showing rate vs. time.



Main Screen

For selecting USB mode, AVG mode and standard mode.



Standard Mode

Showing tabular data.

- 3 Modes of measurement (USB, STANDARD, AVERAGE)
- Selectable units of measure and display refresh interval
- Graph capability in USB mode
- Data can be imported to spreadsheet reports
- Automatic data calculation for Last, Minimum, Maximum and Average readings
- Readings can be set for length and rate measurement
- Smart settings for trigger, max and min limits. (PC will beep indicating out of range data)
- Synchronize time with PC for time stamping
- Multiple data storage in USB mode for different records
- Programmable 1-volt analog output for chart recorders

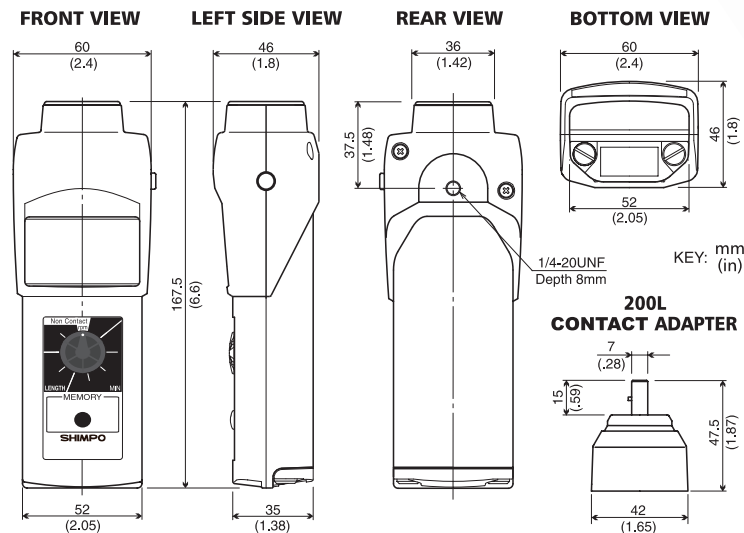


DT-205L (LCD) DT-207L (LED)

Laser-enabled precise RPM measurement up to 14 feet

Our DT-205L and DT-207L tachometers incorporate laser technology yet retain our hallmark rugged construction and reliable quality components; both offer incredible value and versatility as they perform non-contact and contact applications via the included contact adapter.

We're confident you'll agree that these fine units are the most advanced handheld tachometers on the market!



Specifications

MODEL	DT-205L / DT-207L
MEASURING RANGE	6 - 99,999 rpm
ACCURACY	± 1 rpm: 6 - 8,300 rpm / ± 2 rpm: 8,301 - 25,000 rpm / ± 0.006 % of reading ± 1 digit (or 2 rpm max.); 25,001 - 99,999 rpm
DISPLAY	5 digit 0.47" (12 mm) high LCD / 5 digit 0.4" (10 mm) high LED
MEASURING UNITS	rpm (using contact adapter, included) For rate: ypm, mPM, fpm, ipm & length: yd, m, ft, in, use 6" cir. wheel w/ 200L contact adapter
MEMORY	13 readings are stored in memory & retained for 5 minutes (last, max., min. and 10 extra measurements)
DISPLAY UPDATE TIME	1 second (typical)
DETECTION	Laser diode
SYSTEM CONTROL	Single-chip C-MOS microprocessor
OVER RANGE INDICATOR	Flashing numerals
VOLTAGE REQUIREMENT	2 AA 1.5 V batteries
LOW BATTERY INDICATOR	Flashing "LO BAT" display / "B" display (DT-207L)
AUTO POWER SHUT-OFF	Yes
BATTERY LIFE	40-60 hrs approx. / 25 hrs approx. (DT-207L)
OPERATING TEMP. RANGE	32° - 113° F (0 - 45° C)
OPERATING ENVIRONMENT	Non corrosive
CONSTRUCTION	Die-cast aluminum housing
WEIGHT	0.8 lb (365 g)
DIMENSIONS	6.6" L x 2.4" W x 1.8" H (167.5 mm x 60 mm x 46 mm)
WARRANTY	1 year
STANDARD ACCESSORIES	Reflective tape, 2 cone adapters, funnel adapter, 3/2" extension shaft, carrying case, NIST certificate, master wheel (6" cir.) & 200L contact adapter

Features

- 1/4 x 20 mounting hole
- Sophisticated laser beam detection; up to 14'
- Exceptional accuracy
- Length and rate functions
- Length/ sec available
- Broad speed range
- Hardy aluminum construction
- Large 5 digit display
- Expansive 10 test memory capacity
- Extended battery life
- Free N.I.S.T. certificate
- CE mark

Also Available



DT-205L shown in carrying case.
Models: DT-205L-S12 & DT-207L-S12 w/ 12" master wheel.

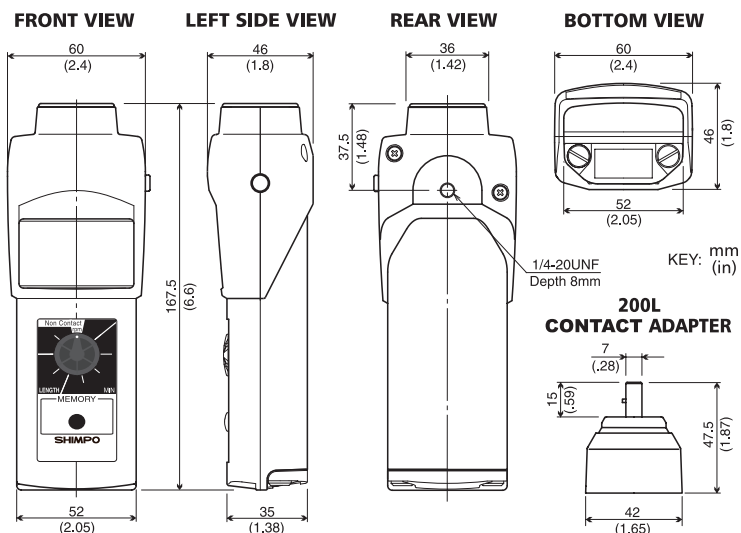
DT-205L-S12 (LCD) DT-207L-S12 (LED)

Capture fast speeds with laser precision

Incorporating the precise laser technology and user-friendly functions as our DT-205L/207L tachometers, the DT-205L-S12 and DT-207L-S12 provide exceptional accuracy in measuring speed and length via 12" wheel; the larger wheel rotates more slowly than a standard 6" wheel, enabling reliable and safe registration of high speeds. These superior instruments also feature a contact adapter, conveniently allowing both non-contact and contact measurement.



DT-207L
Shown with
Red LED Display



Specifications

MODEL	DT-205L-S12 / DT-207L-S12
MEASURING RANGE	6 - 99,999 rpm
ACCURACY	±1 rpm: 6 - 8,300 rpm / ±2 rpm: 8,301 - 25,000 rpm / ±0.006 % of reading ±1 digit (or 2 rpm max.): 25,001 - 99,999 rpm
DISPLAY	5 digit 0.47" (12 mm) high LCD / 5 digit 0.4" (10 mm) high LED
MEASURING UNITS	rpm (on contact using adapter, included) For rate: ypm, mPM, fpm, ipm & length: yd, m, ft, in use 6" cir. wheel w/ 200L adapter
MEMORY	13 readings are stored in memory & retained for 5 minutes (last, max., min. and 10 extra measurements)
DISPLAY UPDATE TIME	1 second (typical)
DETECTION	Laser diode
SYSTEM CONTROL	Single-chip C-MOS microprocessor
OVER RANGE INDICATOR	Flashing numerals
VOLTAGE REQUIREMENT	2 AA 1.5 V batteries
LOW BATTERY INDICATOR	Flashing "LO BAT" display / "B" display (DT-207L-512)
AUTO POWER SHUT-OFF	Yes
BATTERY LIFE	40-60 hrs approx. / 25 hrs approx. (DT-207L)
OPERATING TEMP. RANGE	32° - 113° F (0 - 45° C)
OPERATING ENVIRONMENT	Non corrosive
CONSTRUCTION	Die-cast aluminum housing
WEIGHT	0.8 lb (365 g)
DIMENSIONS	6.6" L x 2.4" W x 1.8" H (167.5 mm x 60 mm x 46 mm)
WARRANTY	1 year
STANDARD ACCESSORIES	Reflective tape, 2 cone adapters, funnel adapter, 3 1/2" extension shaft, carrying case, NIST certificate, master wheel (12" cir.) & 200L adapter

Features

- 1/4 x 20 mounting hole
- Sophisticated laser beam detection; up to 14'
- Exceptional accuracy
- Length and rate functions
- Multi-mode speed selection
- Hardy aluminum construction
- Large 5 digit display
- Expansive 10 test memory capacity
- Extended battery life
- Free N.I.S.T. certificate
- CE mark



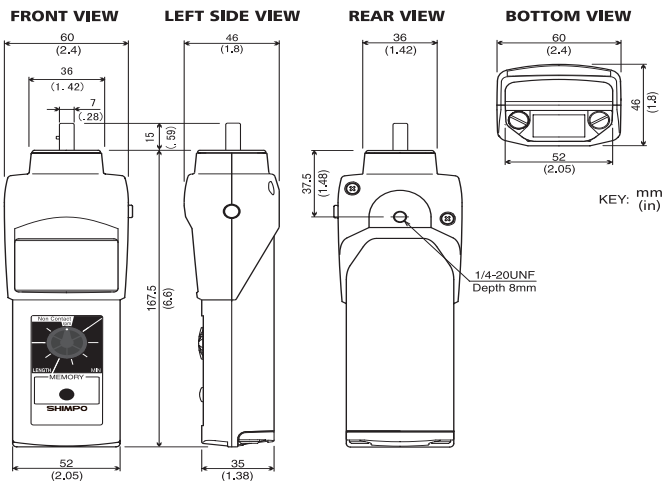
DT-207L-S12 shown in carrying case.

DT-105A (LCD) DT-107A (LED)

The World's Finest Tachometers Are Now Even Better

Shimpo's microprocessor technology has heralded a superior standard in tachometer accuracy and capabilities for measuring and recording rotational/linear/surface speeds and total length.

Offering unprecedented confidence, the DT-105A and DT-107A battery-operated tachometers still feature the same rugged, high quality components that have made them the benchmark in the industry. These user-friendly, value-packed units feature expanded memory storage, added length functions, free N.I.S.T. certificate and many standard accessories. Available with LED or LCD displays.



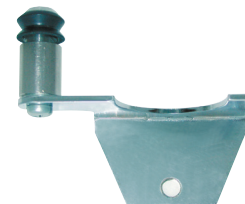
Specifications

MODEL	DT-105A / DT-107A
MEASURING RANGE	0.10 - 25,000 rpm with floating decimal
ACCURACY	±0.06 rpm: 0.10 - 999.9 rpm / ±0.6 rpm: 1,000.0 - 9,999.9 rpm / ±0.006 % of reading ±1 digit (or 2 rpm max.): 10,000 - 25,000 rpm
DISPLAY	5 digit 0.47" (12 mm) high LCD 5 digit 0.4" (10 mm) high LED
MEASURING UNITS	Revolutions: rph, rpm Feet: fph, fpm Miles: mph Inches: ipm Meters: mPH, mPM Length: m, cm, inches, feet, yards Total Revolutions: rev
MEMORY	13 readings stored in memory & retained for 5 minutes (last, max., min. & 10 extra measurements)
DISPLAY UPDATE TIME	1 second (typical)
DETECTION	Optical coupler, 60 pulses / rev.
SYSTEM CONTROL	Single-chip C-MOS microprocessor
OVER RANGE INDICATOR	Flashing numerals
VOLTAGE REQUIREMENT	2 AA 1.5 V batteries
LOW BATTERY INDICATOR	Flashing "LO BAT" display / "B" display (DT-107A)
AUTO POWER SHUT-OFF	Yes
BATTERY LIFE	45-60 hrs approx. / 25 hrs approx. (DT-107A)
OPERATING TEMP. RANGE	32° - 113° F (0 - 45° C)
OPERATING ENVIRONMENT	Non corrosive
DECIMAL POINT	Floating
CONSTRUCTION	Die-cast aluminum housing
WEIGHT	0.9 lb (400 g)
DIMENSIONS	7.2" L x 2.4" W x 1.8" H (182.5 mm x 60 mm x 46 mm)
WARRANTY	1 year
STANDARD ACCESSORIES	2 cone adapters, funnel adapter, 3-1/2" extension shaft, NIST certificate, carrying case, master wheel (6" cir.)
OPTIONAL ACCESSORIES	Wire / yarn fixture, 6" grooved wheel, 12" grooved and flat wheels, WY-100, FPM-12, FPM-12CBL

Features

- 1/4 x 20 mounting hole
- Multi-mode speed selection
- Outstanding accuracy (±0.006% of reading)
- Rugged aluminum construction
- Direct length measurement
- Extensive speed range (0.10 - 25,000 RPM)
- Large 5 digit display
- Lengthy battery life (up to 60 hours)
- Large 10 test memory capacity, plus LAST, MAX and MIN
- Total revolution display
- Free N.I.S.T. certificate
- CE mark
- Overspeed indicator
- Length/ sec available

Also Available



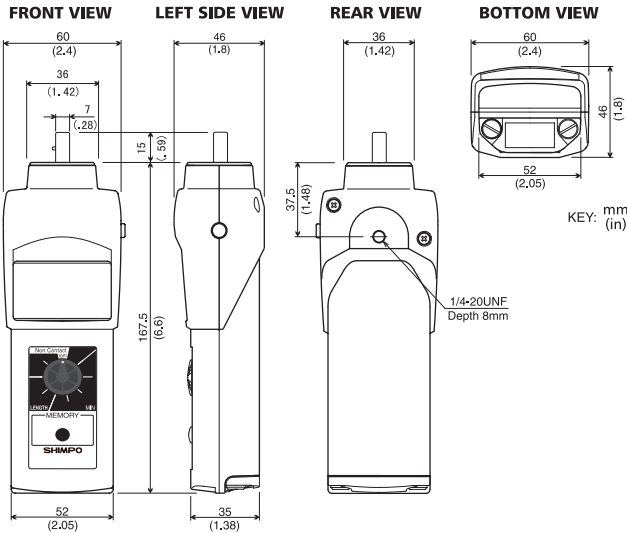
WIRE / YARN TEST FIXTURE

Optional fixture WY-100 is attached to the DT-105A / 107A tachometers for rate and length measurement. (Used with FPM-6-GV 6" cir. grooved wheel)

DT-105A-S12 (LCD) DT-107A-S12 (LED)

Superior accuracy in high speed measurement

Possessing the same sophisticated features and accessories as our renowned DT-105A/107A models, the DT-105A-S12 and DT-107A-S12 tachometers provide outstanding accuracy in measuring speed and direct linear length via a 12" wheel. The larger wheel rotates more slowly than a standard 6" wheel, thus enabling confident and safe high speed measurement.



Specifications

MODEL	DT-105A-S12 / DT-107A-S12	
MEASURING RANGE	0.10 - 25,000 rpm with floating decimal	
ACCURACY	±0.06 rpm : 0.10 - 999.9 rpm / ±0.6 rpm : 1,000.0 - 9,999.9 rpm / ±0.006 % of reading ±1 digit (or 2 rpm max.) : 10,000 - 25,000 rpm	
DISPLAY	5 digit 0.47" (12 mm) high LCD	5 digit 0.4" (10 mm) high LED
MEASURING UNITS	Revolutions : rpm, rpm Feet : fph, fph Miles : mph Yards : yph, ypm Inches : ipm Meters : mPH, mPM Length : m, cm, inches, feet, yards Total Revolutions : REV	
MEMORY	13 readings are stored in memory and retained for 5 minutes (last, max., min. and 10 extra measurements)	
DISPLAY UPDATE TIME	1 second (typical)	
DETECTION	Optical coupler, 60 pulses/rev.	
SYSTEM CONTROL	Single-chip C-MOS microprocessor	
OVER RANGE INDICATOR	Flashing numerals	
VOLTAGE REQUIREMENT	2 AA 1.5 V batteries	
LOW BATTERY INDICATOR	Flashing "LO BAT" display	"B" display (DT-107A-S12)
AUTO POWER SHUT-OFF	Yes	
BATTERY LIFE	40-60 hrs approx.	25 hrs approx. (DT-107A-S12)
OPERATING TEMP. RANGE	32° - 113° F (0 - 45° C)	
OPERATING ENVIRONMENT	Non corrosive	
DECIMAL POINT	Floating	
CONSTRUCTION	Die-cast aluminum housing	
WEIGHT	0.9 lb (400 g)	
DIMENSIONS	7.2" L x 2.4" W x 1.8" H (182.5 mm x 60 mm x 46 mm)	
WARRANTY	1 year	
STANDARD ACCESSORIES	2 cone adapters, funnel adapter, 3-1/2" extension shaft, NIST certificate, carrying case, master wheel (12" cir.)	
OPTIONAL ACCESSORIES	FPM-12CBL / 12" grooved wheel	

Features

- 12" circumference wheel
- 1/4 x 20 mounting hole
- Multi-mode speed selection
- Outstanding accuracy (±0.006% of reading)
- Rugged aluminum construction
- Direct length measurement
- Extensive speed range (0.10 - 25,000 RPM)
- Large 5 digit display
- Length/ sec available
- Large 10 test memory capacity; plus LAST, MAX and MIN
- Total revolution display
- Free N.I.S.T. certificate
- CE mark
- Overspeed indicator



DT-107A-S12 shown in carrying case, with 12" circumference wheel

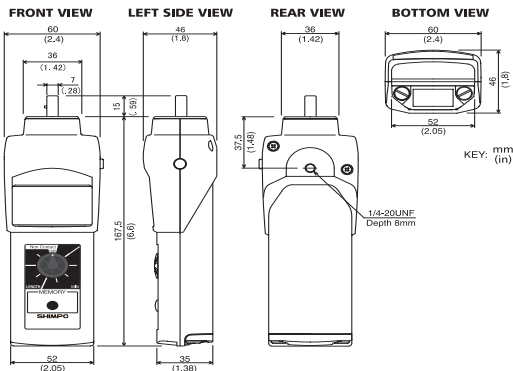
DT-105A-12CBL (LCD) DT-107A-12CBL (LED)

Tachometers For Elevators / Cable Speeds

Shimpo is proud to introduce its Elevator/Cable Wheel, FPM-CBL12, designed specifically for SHIMPO digital tachometers series, DT-107A & DT-105A. This precision made 12" circumference GROOVED wheel was designed for rugged use, while delivering superior performance and accuracy over more conventional flat surface wheels:

Employing a non slip rubber contact surface, the FPM-12CBL adds safety and accuracy while measuring speeds on Elevator governor cables, wire & cable reels, extruded tubing and many other applications. Specially designed for the Shimpo DT-107A-S12 & DT-105A-S12 tachometers, the FPM-12CBL fits all existing Shimpo DT-107A and DT-105A tachometers.

Rugged, precision designed all metal wheel, a set screw secures the FPM-12CBL to tachometer shaft during hard use. FPM-CBL12 may also be used with rotary encoders. FPM-CBL12 may be ordered separately or with SHIMPO, DT-107A-12CBL or DT-105A-12CBL tachometers.



Specifications

MODEL	DT-105A-12CBL / DT-107A-12CBL
MEASURING RANGE	0.10 - 25,000 rpm with floating decimal
ACCURACY	±0.06 rpm: 0.10 - 999.9 rpm / ±0.6 rpm: 1,000.0 - 9,999.9 rpm / ±0.006 % of reading ±1 digit (or 2 rpm max.): 10,000 - 25,000 rpm
DISPLAY	5 digit 0.47" (12 mm) high LCD 5 digit 0.4" (10 mm) high LED
MEASURING UNITS	Revolutions: rph, rpm Feet: fph, fpm / Miles: mph / Yards: yph, ypm / Inches: ipm / Meters: mPH, mPM / Length: m, cm, inches, feet, yards / Total Revolutions: REV
MEMORY	13 readings are stored in memory and retained for 5 minutes (last, max., min. and 10 extra measurements)
DISPLAY UPDATE TIME	1 second (typical)
DETECTION	Optical coupler, 60 pulses/rev.
SYSTEM CONTROL	Single-chip C-MOS microprocessor
OVER RANGE INDICATOR	Flashing numerals
VOLTAGE REQUIREMENT	2 AA 1.5 V batteries
LOW BATTERY INDICATOR	Flashing "LO BAT" display / "B" display (DT-107A)
AUTO POWER SHUT-OFF	Yes
BATTERY LIFE	45-60 hrs approx. / 25 hrs approx. (DT-107A)
OPERATING TEMP. RANGE	32° - 113° F (0 - 45° C)
OPERATING ENVIRONMENT	Non corrosive
DECIMAL POINT	Floating
CONSTRUCTION	Die-cast aluminum housing
WEIGHT	0.9 lb (400 g)
DIMENSIONS	7.2" L x 2.4" W x 1.8" H (182.5 mm x 60 mm x 46 mm)
WARRANTY	1 year
STANDARD ACCESSORIES	2 cone adapters, funnel adapter, 3-1/2" extension shaft, NIST certificate, carrying case, master wheel (FPM-12CBL)
OPTIONAL ACCESSORIES	Wire/yarn fixture, FPM-12 12" cir wheel

Features

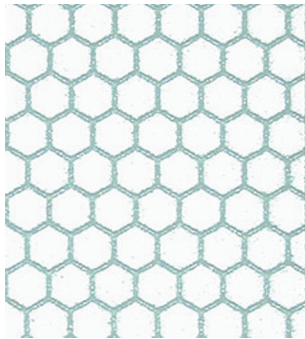
- 12" cir. x 7/8" grooved wheel
- 1/4 x 20 mounting hole
- Multi-mode speed selection
- Outstanding accuracy (±0.006% of reading)
- Rugged aluminum construction
- Direct length measurement
- Extensive speed range (0.10 - 25,000 RPM)
- Lengthy battery life (up to 60 hours)
- Large 10 test memory capacity; plus LAST, MAX and MIN
- Total revolution display
- Free N.I.S.T. certificate
- CE mark
- Minimum shaft loading overspeed indicator

Also Available



FPM-12 12" circumference wheel with no groove.

Hand Held Tach Accessories



Reflective Tape - 1" x 7 3/4"
Tape Strip



Reflective Tab - 1/2" x 1/2"
35 tabs per sheet.
Tab



Extension Shaft - 3 1/2"
For all DT Series handheld tachometers.
Ext - Shaft



DT-ADP-200L
Contact adapters for
DT-205L and DT-207L
Laser tachometers.

Measuring Wheels:

For contact linear rate and length measurement

FPM-6 (feet/min) (6" cir.)

FPM-12 (feet/min) 12" cir.)

YPM (yards/min) (0.1 yard circumference)

MPM (meter/min) (0.1 meter circumference)

FPM-6-GV (6" cir. grooved wheel)

FPM -12CBL (12" cir. wheel for cables/elevator cables)

FPM-RE1B (12" cir. for use w/ rotary pulse generators)

FPM-12CBL-RE1B (12" cir. for use w/ rotary pulse generators)



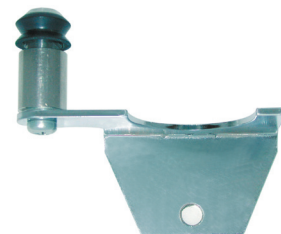
DT-CARRY100
Plastic carrying case for all DT series handheld tachometers.



Cone Adapters - 1/2", 3/4" or 1 1/4"
For contact RPM measurement on motor shafts.
Cone - 1/2
Cone - 3/4
Cone - 1 1/4



Funnel Adapter - 1/2", 3/4"
For contact RPM measurement on motor shafts.
Funnel - 1/2
Funnel - 3/4



WY-100 (wire/yarn/fiber)
For measuring linear rate and length.
To be used with FPM-6-GV.

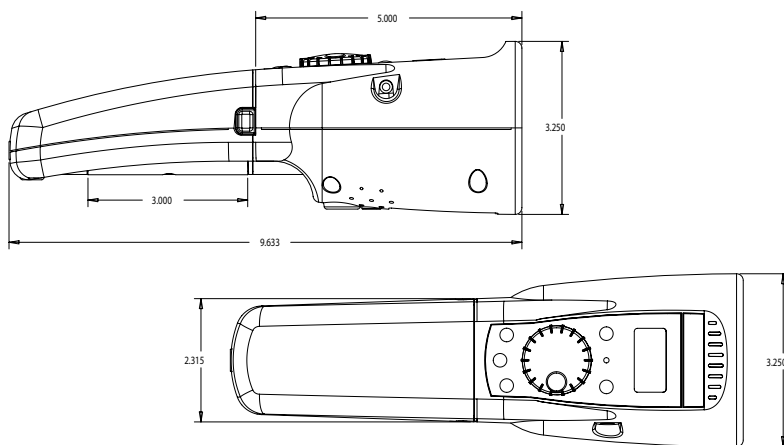
TechStrobe: DT-900 Series

The World's Finest Stroboscope Are Now Even Better

The TechStrobe from Shimpo Instruments is the perfect tool for slow motion or stop action stroboscopic inspection, and is the only palm size unit to include a Phase Shift feature! Phase shifting allows the TechStrobe operator to advance or retard the flash timing by degrees° of angle, without changing the actual flash rate (FPM) of the TechStrobe.

Employing its unique Phase shifting feature, the TechStrobe "freezes" rotating or reciprocating machinery for visual inspection of covered gear teeth, shafts, oil/fuel/ink injector patterns, and print media, and all without stopping production.

Designed for right or left hand, all TechStrobe functions are intuitive and easy to use. Quality and Maintenance Professionals will appreciate the rotary and push button controls for internal flash (FPM/RPM) control, external triggering, tachometer mode and Phase shift control. The push buttons rapidly increase (x 2), or decrease (+2) the flashes per minute (FPM) and change by degrees° the Flash phase.



Specifications

MODEL	DT-900 SERIES
FLASH RATE RANGE	40-12,500 Flashes Per Minute (fpm)
FLASH RATE ACCURACY	+/- 0.5 fpm or +/- 0.01% of reading, whichever is greater
DISPLAY FLASH SETTING RESOLUTION	0.1 fpm for 100 to 9,999 fpm, 1 fpm for 10,000 to 12,500 fpm
TACHOMETER RANGE	40 - 59,000 rpm
TACHOMETER ACCURACY	+/- 0.5 rpm or +/- 0.01% of reading, whichever is greater
FLASH TUBE	Xenon, 10W, user replaceable
FLASH TUBE LIFE	100 Million Flashes
FLASH DURATION	9-15 usec
LIGHT POWER	154 mJoules per flash
BATTERY TYPE	NiMH, rechargeable, removeable
BATTERY CAPACITY	2.6 AmpHr
BATTERY CHARGE TIME	2-4 hours, using supplied AC adapter
RUN TIME PER CHARGE	2.5 hours at 1600 fpm, 1.25 hours at 3200 fpm
BATTERY CHARGER AC INPUT	115 VAC, 50/60 Hz / Universal charger optional
DISPLAY	8 character by 2 line LCD, alphanumeric
DISPLAY UPDATE	continuous
TIMEBASE	Crystal oscillator, 100 ppm accuracy
CONTROLS	Power, multiply by 2, divide by 2, phase shift, external trigger
EXTERNAL TRIGGER INPUT	0-5V TTL type via stereo phono jack
EXTL TRIGGER TO FLASH DELAY	5 usec maximum
CLOCK OUTPUT	0-5V TTL type signal via stereo phono jack
COLOR	Industrial Cool Grey
HOUSING	Impact & oil resistant polycarbonate
WEIGHT	650 g / 1 lb, 7 oz.



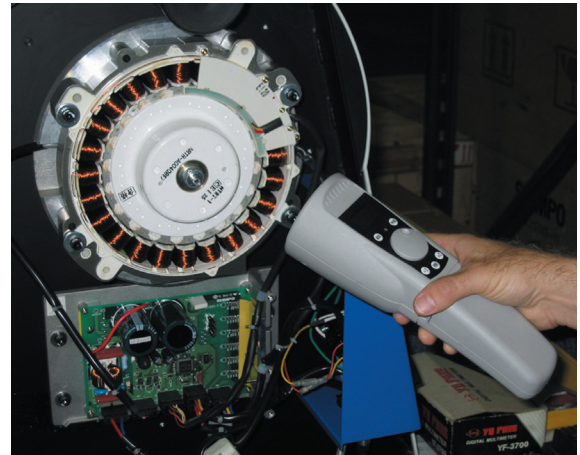
Features

- Brightest flash of any strobe in it's class
- Long run per charge time
- User adjustable flash rates
- Buttons for easy x2 and +2 adjustment
- Phase shift mode for full inspection of gears & rolls
- Alphanumeric LCD display w/ easy user interface
- One hand operation for right or left handed operators
- Removable battery w/ built-in charge electronics
- External trigger and clock output
- Includes AC adapter and extra flashtube
- TechStrobe kits include free padded belt holster

Also Available



DT-900-PR Series shown with carrying case, holster and extra battery.



DT-900-PR PROFESSIONAL includes: TechStrobe unit, extra battery, flashtube, AC adapter, and belt holster.

DT-900 CONFIGURATIONS & ACCESSORIES

DT-900

TechStrobe Stroboscope, w/battery, 120VAC charger, spare flash tube

DT-900-U

TechStrobe, w/battery, Universal AC charger, spare flash tube

DT-900-TR

TRAVELER KIT: TechStrobe, w/battery, 120VAC charger, spare flash tube, carry case, padded belt holster

DT-900-PR

PROFESSIONAL KIT: TechStrobe, w/ 2 batteries, 120VAC charger, spare flash tube, carry case, padded belt holster

NOTE:

When ordering TRAVELER or PROFESSIONAL KITS, specify UNIVERSAL AC CHARGER (CHU-900) if required.

accessories

BAT-900

Spare Battery pack w/ built in charging electronics

CH-900

120VAC charger for battery pack BAT-900

CASE-900

Plastic carrying case with handle for DT-900 TechStrobe

PBH-900

Padded belt holster for DT-900 TechStrobe

CHU-900

Universal AC charger-for charging BAT-900 world wide

FT-900

Flash tube replacement for DT-900 TechStrobe

DT-721 (AC Powered)

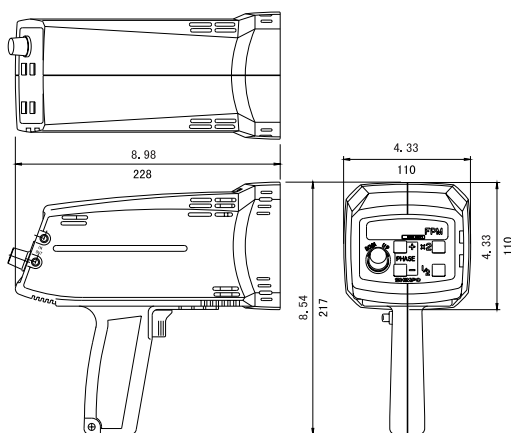
DT-725 (Internal Battery)

DT-721/725 KIT

Economical lightweight units packed with features

The DT-721 and DT-725 are packed with many of the same features as our famous DT-300 series, but are lighter in weight. Constructed of strengthened high impact plastic, these rugged units are exceptionally reliable and withstand the same harsh conditions as more expensive units. Both units are sold separately or as a convenient kit.

The DT-721/DT-725 KIT contains a strobe, extra flash bulb, charger (model DT-725 only) and rugged carrying case.



Specifications

MODEL	DT-721(AC) / DT-725(INTERNAL BATTERY) / DT-721/725 KIT
FLASHING RANGE	40.0 - 12,500 fpm (flashes per minute)
ACCURACY	±0.02 % of reading
RESOLUTION	0.1 fpm: 40.0 - 4,999.9 fpm / 0.2 fpm: 5,000 - 7,999.9 fpm / 0.5 fpm: 8,000.0 - 9,999.5 fpm / 1 fpm: 10,000 - 12,500 fpm
PHASE SHIFT	Use +/- push buttons (360° in 6 seconds)
DISPLAY UPDATE TIME	Ext. mode : varies with flashing rate
OUTPUT SIGNAL	NPN open collector (24 VDC max., 50 mA), 150 μsec typical
RATE MULTIPLIER/DIVIDER	Multiply by 2, divide by 2
EXTERNAL TRIGGER INPUT SIGNAL	a) 12 - 24 VDC thru a 3-wire NPN output sensor (requires external power supply) b) 12 VDC thru a 2-wire proximity sensor (leakage current 1 mA max., load current 8 mA min.) c) Switch or relay contact
DISPLAY	5 digits, 0.3" (8 mm) high, LED
FLASH TUBE POWER/LIFE	Xenon, 10 W max. (100 million flashes)
FLASH DURATION	10 - 15 μsec
SENSOR POWER SUPPLY	None
LOW BATTERY INDICATOR	N/A / Flashing LED
BATTERY LIFE	1-2 hours depending on flash rate
POWER REQUIREMENT	115 VAC or 220 VAC ±10 % 60/50 Hz / Internal battery pack
OPERATING TEMPERATURE	32° - 104° F (0 - 40° C)
WEIGHT	1.5 lb (0.7 kg) / 2.75 lb (1.25 kg)
DIMENSIONS	8.98" L x 4.33" W x 8.54" H (228 mm x 110 mm x 217 mm), including handle
WARRANTY	1 year
OPTIONAL ACCESSORIES	Fast charger, Carrying case, Flashtubes, SAS-DT300 Flexible swing arm, NIST traceable certificate

Features

- Plastic housing with strength members
- Lightweight design
- Phase shift (in degrees)
- Continuous duty flash bulb
- External trigger
- Slave functions
- Bright LED display
- Unique rotary pulse indicator
- Manual flash controller knob
- 1/4 x 20 mounting hole

Also Available



DT-725KIT in Padded Kit with Charger, and Spare Flash Tube.

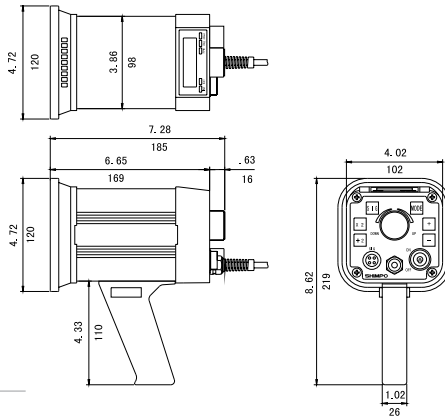
DT-311A

Exceptional ruggedness and reliability

Shimpo's dual function stroboscopes provide the illusion of "stopped motion": by adjusting the strobe's flash rate, equipment and printing appear to be standing still or in slow motion. Our strobes also measure rotational (RPM) or reciprocating (strokes per minute) speeds with the same precision as an electronic digital tachometer.

Ideally suited for printing inspection, motion analysis, preventive maintenance and speed measurement of repetitive motion, our strobes provide timely data on vibrating parts, leaks, spray patterns and a variety of industrial and scientific operations.

Don't be fooled... while the DT-311A stroboscope is extremely easy to operate via its lightweight and compact design, its rugged metal construction provides unequalled reliability in the harshest environments.



Specifications

MODEL	DT-311A
FLASHING RANGE	40.0 - 35,000 fpm (flashes per minute)
ACCURACY	±0.01 % of reading
RESOLUTION	0.1 fpm: 40.0 - 5,000 fpm / 0.2 fpm: 5,001 - 8,000 fpm / 0.5 fpm: 8,001 - 10,000 fpm / 1 fpm: 10,001 - 35,000 fpm
PHASE SHIFT	Use +/- push buttons (360° in 6 seconds)
DISPLAY UPDATE TIME	0.2 seconds approx.
OUTPUT SIGNAL	Synchronous, 400 μ sec. Pulse output, 0 to +12 VDC amplitude(approx.), 4.7 K Ω impedance
RATE MULTIPLIER/DIVIDER	Multiply by 2, divide by 2
FLASHING RANGE	0.0 to 35,000 fpm
EXTERNAL MODE ACCURACY	±0.01 % ±1 digit
PHASE SHIFT	0 to 359° with 1° resolution
DELAY TIME	0 to 2,000 msec from 40 - 10,000 fpm
EXTERNAL TRIGGER INPUT SIGNAL	LO level: 0 - 0.8 VDC, HI level: 2.5 - 12 VDC or open collector (NPN), pulse width 50 μ sec min
INPUT IMPEDANCE	4.7 K Ω to 12 V / 6.8 K Ω to 0 V
DISPLAY	5 digits, 0.4" (10 mm) high, LED
FLASH TUBE POWER/LIFE	Xenon, 10 W max. (100 million flashes)
FLASH DURATION	10 - 40 μ sec
SENSOR POWER SUPPLY	12 VDC (40 mA)
LOW BATTERY INDICATOR	N/A
POWER REQUIREMENT	115 VAC or 220 VAC ±10 % 60/50 Hz, 30 VA (specify voltage)
OPERATING TEMPERATURE	32° - 104°F (0 - 40°C)
WEIGHT	2.6 lb (1.2 kg)
DIMENSIONS	7.28" L x 4.72" W x 4.72" H (185 mm x 120 mm x 120 mm)
WARRANTY	1 year
OPTIONAL ACCESSORIES	Carrying case, sensors, SG-300 strobe guard, SAS-DT300 flexible swing arm, daisy chain cables, NIST traceable certificate

Features

- Extruded aluminum construction
- Highly accurate ($\pm 0.01\%$ of reading)
- Phase shift (timing, advance or delay in degrees or mSec)
- High flash rate (up to 35,000 FPM)
- Microprocessor-controlled
- External trigger
- Synchronous output
- Flash timer control
- Continuous duty cycle
- Highly polished focused reflector
- Manual flash controller knob
- 1/4 x 20 mounting hole

Also Available



SG-300, Strobe Guard, Flex Arm SAS-DT300, Flash Tubes and Sensors, shown in typical print inspection/ registration application.

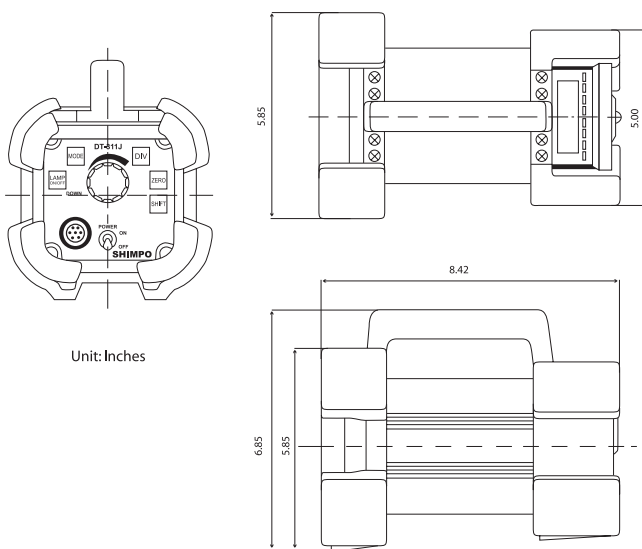
DT-311J

DT-311J stroboscopes - designed for harsh and wet work areas.

Where powerful illumination and rugged speed measuring accuracy are required for the textile industry, the DT-311J will perform where other stroboscopes will not.

The DT-311J is used to set injection timing, injection pressure, timing of shedding and weft running time of weaving machinery.

Rugged-Drip Proof (IP65) Housing, High Performance Accuracy, Special Phase shifting, w/ Shock Absorbing components and top mounted handle, allows the equipment operator maximum flexibility when setting the timing of weaving machinery..



Unit: Inches

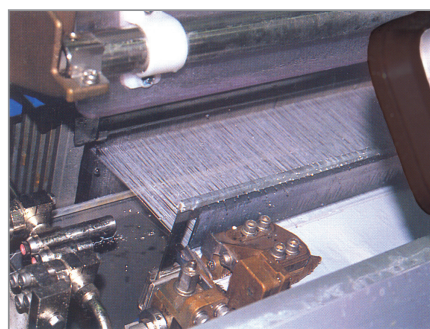
Specifications

MODE	DT-311J
FLASH RANGE	200 - 1,500 rpm
PHASE SHIFT	0 - 359° / 1° increments
INTERNAL SIGNAL RANGE	200 to 1,500 rpm / fpm
FLASH RATE/PHASE ANGLE SETTER	Rotary Encoder
DISPLAY	4 digit 10mm high Red LED
DIVIDE RATIO	1/1, 1/2, 1/3, 1/4, 2/4 with shift
INPUT SIGNAL	High level: 5 to 24V Pulse width 2 msec min. / Lo level: 0 to 1V Pulse width 2 msec min. / Output impedance less than 10 KΩ
INPUT IMPEDANCE	47 KΩ
DISPLAY MODE	Phase shift (degree), Tachometer
ACCURACY	±1 digit
FLASHTUBE	Xenon lamp Flashtube 311-J / max: 10W at 1,500 rpm / Life: 1,200 hours at 1,500 rpm
OPERATING TEMPERATURE	0 to 40° C
POWER REQUIREMENT	115 VAC ±5% 50/60Hz
POWER CONSUMPTION	20 VA max
DIMENSIONS	5.85" W x 6.85" H x 8.42" (149 W x 174 H x 214 L mm)
WEIGHT	4.2 lbs (1.9 Kg)
ACCESSORIES INCLUDED	19.68' (6m) cable w/ connector, Instruction manual, rubber strobe guard w/ handle

Features

- **Internal signal "MODE" (flash) or external triggering control**
Allow manual control and display of flash rate (RPM), deg (flash delay angle in degrees), and automatically synchronizes to an input signal
- **Phase "SHIFT" switch**
Single touch - changes flash timing, 0-359 degrees
- **"ZERO" setting control**
Zeroing at any angle is easy-single touch
- **Long life flash tubes**
Flash rates of 200-1500FPM, the DT-311J flash tubes are designed for extra long life
- **Angle division "DIV"**
Permits special flash interval ratio settings: 1/1, 1/2, 1/3, 1/4, and 2/4 flashes per rotation

Applications

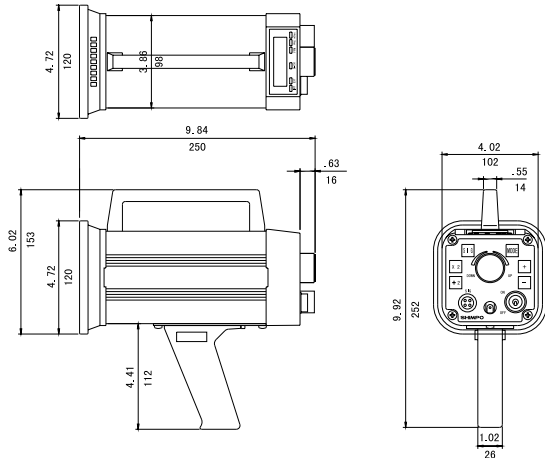


DT-311J) as shown, inspection and timing of shedding and weft running time.

DT-315A

Portability via internal battery pack

The microprocessor-controlled DT-315A possesses the same great features of the DT-311A with the added convenience of total portability via its own internal power supply with up to one hour of full time, high intensity flash rate. Powered by rechargeable batteries located inside its rugged aluminum housing, the DT-315A also performs as an AC line-powered strobe when plugged into its standard AC adapter/charger unit.



Specifications

MODEL	DT-315A
FLASHING RANGE	40.0 - 35,000 fpm (flashes per minute)
ACCURACY	±0.01 % of reading
RESOLUTION	0.1 fpm: 40.0 - 5,000 fpm / 0.2 fpm: 5,001 - 8,000 fpm / 0.5 fpm: 8,001 - 10,000 fpm / 1 fpm: 10,001 - 35,000 fpm
PHASE SHIFT	Use +/- push buttons (360° in 6 seconds)
DISPLAY UPDATE TIME	0.2 seconds approx.
OUTPUT SIGNAL	Synchronous, 400 μsec. Pulse output, 0 to +12 VDC amplitude (approx.), 4.7 KΩ impedance
RATE MULTIPLIER/DIVIDER	Multiply by 2, divide by 2
FLASHING RANGE	0.0 to 35,000 fpm
EXTERNAL MODE ACCURACY	±0.01 % ±1 digit
PHASE SHIFT	0 to 359° with 1° resolution
DELAY TIME	0 to 2,000 mSec from 40 - 10,000 fpm
EXTERNAL TRIGGER INPUT SIGNAL	LO level: 0 - 0.8 VDC, HI level: 2.5 - 12 VDC or open collector (NPN), pulse width 50 μsec min.
INPUT IMPEDANCE	4.7 KΩ to 12 V / 6.8 KΩ to 0 V
DISPLAY	5 digits, 0.4" (10 mm) high, LED
FLASH TUBE POWER/LIFE	Xenon, 10 W max. (100 million flashes)
FLASH DURATION	10 - 40 μsec
SENSOR POWER SUPPLY	12 VDC (40 mA)
LOW BATTERY INDICATOR	Display shows all L's
BATTERY LIFE	1 - 2 hours depending on flash rate
POWER REQUIREMENT	Internal battery pack
OPERATING TEMPERATURE	32° - 104°F (0 - 40°C)
WEIGHT	4.4 lb (2 kg)
DIMENSIONS	9.84" L x 4.72" W x 4.72" H (250 mm x 120 mm x 120 mm)
WARRANTY	1 year
STANDARD ACCESSORIES	Fast charger
OPTIONAL ACCESSORIES	Carrying case, sensors, SG-300 strobe guard, SAS-DT300 Flexible swing arm, NIST traceable certificate

Features

- Extruded aluminum construction
- Internal battery supply
- Continuous duty cycle
- Phase shift (timing, advance or delay in degrees or mSec)
- Repeatable accuracy (± 0.01% of reading)
- Microprocessor-controlled
- External trigger
- Synchronous output
- Flash timer control
- Highly polished focused reflector
- Manual flash controller knob
- Fast recharge cycle

Also Available



PRINTING QUALITY CONTROL/
check registration and color

SG-300, Strobe Guard, Flex Arm, SAS-DT-300, Flash Tubes and Sensors.

DT-315P

Designed from the beginning for harsh use

The DT-315P is a rugged, sealed (**IP65**) Stroboscope suitable for working in areas without AC power. The DT-315P works just like the DT-315A battery operated strobe, however flash tube life is increased, so maintenance of the DT-315P is less. Equipped with Phase shifting in angle of delay (0-359 degrees) and flash time delay, (0-300 mSec) the DT-315P is engineered for checking speed, timing and wear on rotating and reciprocating machinery.

With its rugged "bumper", sealed body, and internal (rechargeable) battery, the DT-315P provides the maintenance and quality professional, a rugged and accurate strobe-tach for inspection in harsh environments, of presses, conveyers, gear reducers, chain drives, fuel injectors, spray (paint) patterns, and many other industrial applications.



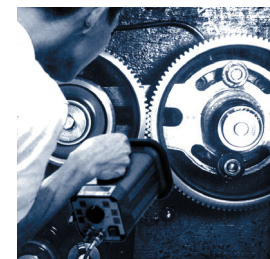
Specifications

MODEL	DT-315P
FLASHING RANGE	60.0 ~ 3,300 fpm
DISPLAY ACCURACY	± 0.01 % of reading
DRIFT	± 0.01 (at 0 ~ 40° C)
UPDATE TIME	Approx. 0.2 seconds
OUTPUT SIGNAL	Approx. 12V
OTHER FUNCTIONS	÷2, x2 Flashings, Phase shift adjustment amplitude(approx.), 4.7 KΩ impedance
FLASHINGS	Synchronous mode: 60.0 ~ 3,300fpm / Delay mode: 200 ~ 3,300 fpm
DELAY ANGLE RANGE	Delay mode: 0 ~ 359°, Set by 1°
DISPLAY	rpm, Synchronous mode: 60.0 ~ 3300fpm / Delay Angle, Delay mode: 0 ~ 359° or 0 ~ 300mS conversion display
DISPLAY ACCURACY	Synchronous mode: ± 0.01% plus ± 1 digit / Delay mode: + 0 -0.2mS plus ± 1 digit
UPDATE TIME	1 / second
INPUT SIGNAL	H Level: 2.5 ~ 12V / L level: 0 ~ 0.4V / 50 μs or over for H.L. level / Trigger at rising edge / Approx. 10 KΩ impedance
SENSOR POWER	Battery: 6.8 ~ 11.0V / Adapter: 10.2 ~ 12.2V / DC: 9 ~ 14.5V : 7.8 ~ 14.1V / max. 40mA (including max 0.6V Ripple)
DISPLAY	5 digit, 7 segment red LED (Character height 10mm)
SETTER	Flashing, Delay angle: Jog Shuttle / Mode, Display Unit: Tact Switch
FLASHTUBE	Xenon lamp Flashtube 311-2
FLASHTUBE POWER	max. 10W
FLASH DURATION	Approx. 30 μ sec
POWER	Battery: Nicd battery, 8KR - 2000 sce SANYO, Operating time: Approx. 1 hour (full charge at 3000 fpm) / Battery charge time: Approx. 10 hours / Do not operate over 10 hours continuously (External power: Disconnect the built-in battery before operating instrument by external power) / DC 9V - 14.5V, Max. 24W (current consumption is 24W/input voltage) operate by provided adapter / AC115V 10%, 50/60 Hz max. 40VA
OPERATING TEMPEATURE	0 - 40°C
DIMENSIONS	5.11" W x 6.22" H x 10.20" L (130 W x 158 H x 259 L mm)
WEIGHT	Approx. 4.6 lbs (2.1 kg)
POWER PLUG	PJ-2 (Sato parts) or the equivalent
ACCESSORIES	Input/Output signal plug, AC adapter, flash tubes
OPTIONAL ACCESSORIES	NIST traceable certificate

Features

- Internal signal "MODE" (flash) or external triggering control
- Adjust flash rate settings
- Long Life Flash Tubes
- SIG switch
- Phase "SHIFT"

A Closer Look



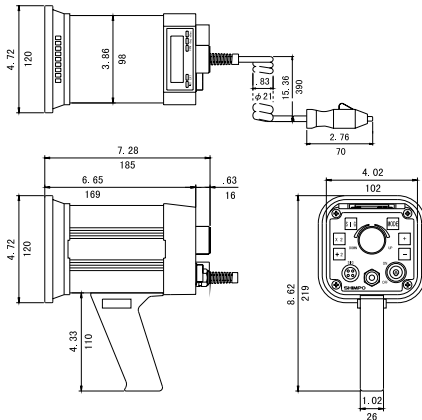
Using phase shift feature.

**SYNCHRONIZED FLASH RATE/
predictive maintenance inspection
of gear teeth**

DT-315AEB

Operates independent of line powerpack

A truly portable unit, the DT-315AEB operates independent of line power via an exterior battery pack that can be carried with a convenient shoulder harness or set down to allow the operator full movement for visual inspection. When fully charged, rechargeable batteries power the strobe for approximately four continuous hours. The DT-315AEB also incorporates the same impressive features as our DT-311A and DT-315A strobes.



Specifications

MODEL	DT-315AEB
FLASHING RANGE	40.0 - 35,000 fpm (flashes per minute)
ACCURACY	±0.01 % of reading
RESOLUTION	0.1 fpm: 40.0 - 5,000 fpm / 0.2 FPM: 5,001 - 8,000 fpm / 0.5 fpm: 8,001 - 10,000 FPM / 1 fpm: 10,001 - 35,000 fpm
PHASE SHIFT	Use +/- push buttons (360° in 6 seconds)
DISPLAY UPDATE TIME	0.2 seconds approx.
OUTPUT SIGNAL	Synchronous, 400 μsec. Pulse output, 0 to +12 VDC amplitude (approx.), 4.7 KΩ impedance
RATE MULTIPLIER/DIVIDER	Multiply by 2, divide by 2
FLASHING RANGE	0.0 to 35,000 fpm
EXTERNAL MODE ACCURACY	±0.01 % ± 1 digit
PHASE SHIFT	0 to 359° with 1° resolution
DELAY TIME	0 to 2,000 mSec from 40 - 10,000 fpm
EXTERNAL TRIGGER INPUT SIGNAL	LO level: 0 - 0.8 VDC, HI level: 2.5 - 12 VDC or open collector (NPN), pulse width 50 mSec min.
INPUT IMPEDANCE	4.7 KΩ to 12 V / 6.8 KΩ to 0 V
DISPLAY	5 digits, 0.4" (10 mm) high, LED
FLASH TUBE POWER/LIFE	Xenon, 10 W max. (100 million flashes)
FLASH DURATION	10 - 40 μsec
SENSOR POWER SUPPLY	12 VDC (40 mA)
LOW BATTERY INDICATOR	Display shows all L's
BATTERY LIFE	1 - 2 hours depending on flash rate
POWER REQUIREMENT	External battery pack (9.8 - 14.5 VDC, 2.3A)
OPERATING TEMPERATURE	32° - 104°F (0 - 40°C)
WEIGHT	2.5 lb (1.1 kg)
DIMENSIONS	7.28" L x 4.72" W x 4.72" H (185 mm x 120 mm x 120 mm)
WARRANTY	1 year
STANDARD ACCESSORIES	External battery pack with charger
OPTIONAL ACCESSORIES	Carrying case, sensors, SG-300 strobe guard

Features

- Extruded aluminum construction
- External battery supply
- Repeatable accuracy (± 0.01% of reading)
- Microprocessor-controlled
- Phase shift (in degrees of delay time)
- Flash timer control
- Manual flash controller knob
- External trigger
- Synchronous output
- Continuous duty cycle
- Highly polished focused reflector
- 1/4 x 20 mounting hole

Applications



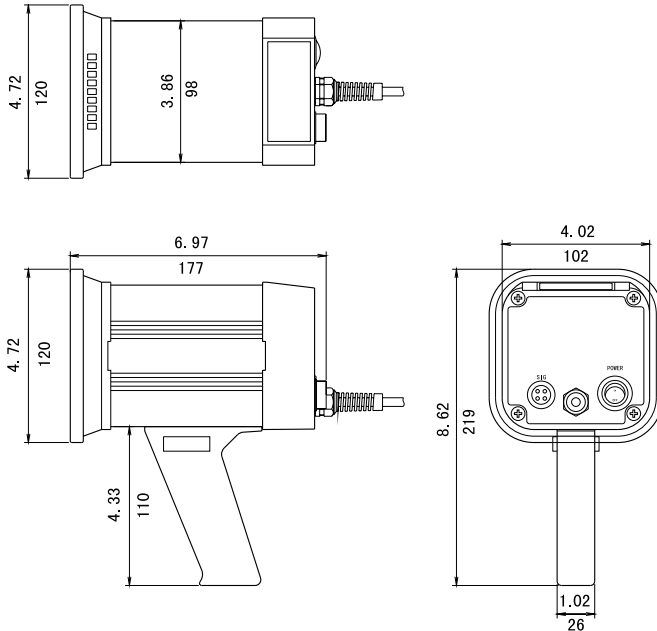
Using phase shift feature.

SYNCHRONIZED FLASH RATE/
predictive maintenance inspection
of gear teeth and grinding wheels

DT-314

Economical unit for machine vision applications

Our straightforward DT-314 is intended to be machine mounted for continual visual inspection and monitoring of the machine's action; it operates only on external mode in order to synchronize its flashing with the speed (rotation, vibration, etc.) of the equipment under observation. No display is necessary, as the strobe's main function is to observe the action as it happens, resulting in an incredibly rugged and economical unit.



Specifications

MODEL	DT-314
FLASHING RANGE	0 - 15,000 fpm (flashes per minute)
ACCURACY	±0.01 % of 1 digit
OUTPUT SIGNAL	Pulse width 50 msec / LO level: 0 - 0.4 VDC, HI level: 2.5 - 12 VDC
EXTERNAL TRIGGER INPUT SIGNAL	LO level: 0 - 0.8 VDC, HI level: 2.5 - 12 VDC or open collector (NPN), pulse width 50 μsec min.
INPUT IMPEDANCE	10 KΩ
DISPLAY	None
FLASH TUBE POWER/LIFE	Xenon, 10 W max. (100 million flashes)
FLASH DURATION	50 μsec approx.
SENSOR POWER SUPPLY	12 VDC ± 0.5 V (50 mA)
POWER REQUIREMENT	115 VAC or 220 VAC ±10% 60/50 Hz, 30 VA (specify voltage)
OPERATING TEMPERATURE	32° - 104°F (0 - 40°C)
WEIGHT	2.4 lb (1.1 kg)
DIMENSIONS	6.97" L x 4.72" W x 4.72" H (177 mm x 120 mm x 120 mm)
WARRANTY	1 year
OPTIONAL ACCESSORIES	Carrying case, sensors, SG-300 strobe guard, SAS-DT-300 flexible swing arm

Features

- Rugged aluminum construction
- Highly polished focused reflector
- External trigger
- Continuous duty cycle
- Synchronous output
- 1/4 x 20 mounting hole

Also Available

- Flash tubes
- Swing arm SG-300
- Strobe guard SAS-DT-300
- Sensors
- Daisy chain cable

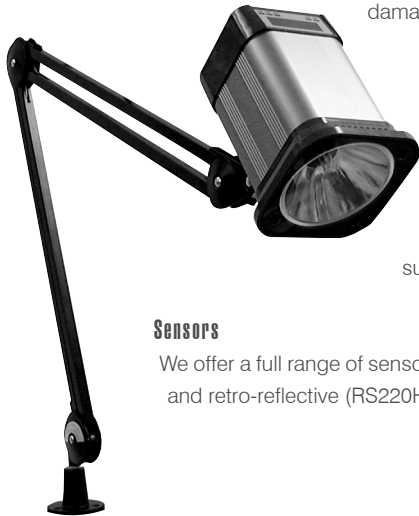
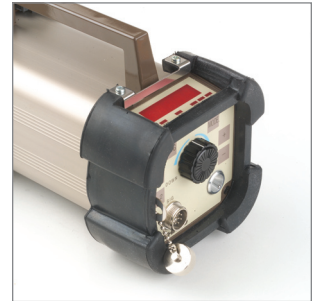


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Strobe Guard/Swing Arm/Sensors

SG-300 Strobe Guard - Save Money

We've developed a shock absorbing rubber boot that will also help protect against shock and liquid damage. With fully protected front lens assembly and controls, the **SG-300** Strobe Guard adds value to Shimpo's DT-311A, DT-315A, DT-315AEB and DT-314 stroboscopes by extending the service life of these already rugged metal units. Flashtube life is increased due to the reduced incidence of impact related damage, reducing maintenance cost. One year warranty.



SAS-DT-300 Flexible Swing Arm

Articulating swing arm, 41" when fully extended. Heavy duty construction with internal springs. For flexible and secure mounting of all Shimpo Digital Stroboscopes, with 1/4" x 20 machine head mounting screw. Includes surface mount swivel bracket for mounting to horizontal surface and mounting screws.

Sensors

We offer a full range of sensors, including proximity (DJ2-G, BI2-S12, SE-G, MCS-3109), and retro-reflective (RS220HR, MCS-625, MCS-655). Page 32 - 34 for details.

Strobe Specifications & Sensor Chart

Strobe Model Number	DT-311A	DT-314	DT-315A	DT-315AEB	DT-721	DT-725	DT-900
Internal Trigger Mode	X		X	X	X	X	X
External Trigger Mode	X	X	X	X	X	X	X
Sensor Power Supply	X	X	X	X			
115 / 220 VAC	X	X	X	X	X	X	
Battery Powered Internal			X			X	X
Battery Powered External				X			
115 / 220 VAC Fast Charger			X	X		X	X
Phase Shift Adjustment	X		X	X	X	X	X
Rate Multiplier / Divider	X		X	X	X	X	X
Synchronous Output	X	X	X	X			X
5-Digit LED Display	X		X	X	X	X	
35,000 fpm max	X		X	X			
15,000 fpm max		X					
12,500 fpm max					X	X	X
Rugged Aluminum	X	X	X	X			
High Impact Plastic					X	X	X
Proximity	DT-311A	DT-314	DT-315A	DT-315AEB	DT-721	DT-725	DT-900
B12-S12	X	X	X	X	X	X	
SE-G (Gear Sensor)	X	X	X	X	X	X	
MCS-3109	X	X	X	X	X	X	
Photo Reflective Sensors							
MCS-655	X	X	X	X	X	X	
RS-220HR	X	X	X	X	X	X	
MCS-625	X	X	X	X			
LS-S50ML	X	X	X	X			

DT-5TG

Shimpo's DT-5TG is a multi-purpose instrument capable of displaying not only RPM, but also surface speed, flow rate, elapsed time and other units. The DT-5TG accepts a variety of modules, enabling it to perform different output functions such as 0-10VDC and 4-20mA, set points (optional relay closures), available in AC or DC models. One year warranty.

The DT-5TG is available in three configurations:

DT-5TG-0

Does not accept any modules

DT-5TG-1

Accepts one of the following modules:

DOP-FV (voltage/current output)

DOP-CP (triple relay output)

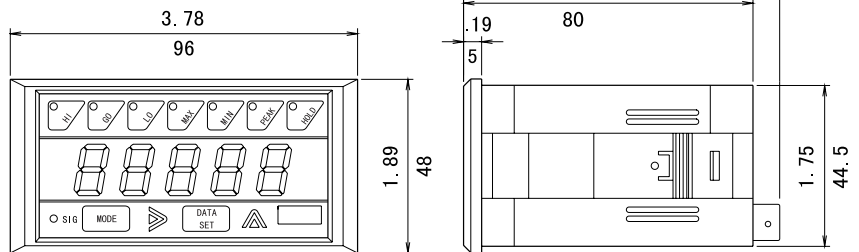
DT-5TG-2

Accepts a combination of the following modules:

DOP-FV (voltage/current output)

DOP-CP (triple relay output)

DT-5TG-DC (DC models available)



Specifications

MODEL	DT-5TG
DISPLAY RANGE	0.0000 - 9.9999, 0.000 - 99.999, 0.00 - 999.99, 0.0 - 9999.9, 0 - 99999
MEASURING RANGE	10 - 99,999 rpm (at 1 p/r), 0.2 - 30,000 rpm (at 60 p/r)
ACCURACY	± 0.008 % ± 1 digit
DISPLAY UPDATE TIME	0.25, 0.5, 1, 2, 4, 8, and 16 seconds (selectable)
TIME BASE	Controlled by a 4.194304 MHz crystal
DISPLAY	5 digit 0.56" (14.2 mm) high LED
INPUT NO. OF P/R	1 to 9,999 (programmable)
INPUT SIGNAL CHARACTERISTICS	Sine wave. max. frequency 10 kHz / Square wave. max. frequency 30 kHz / Contact closure. max. frequency 20 Hz / Open collector with 20 μsec minimum
INPUT SIGNAL AMPLITUDE	Sine wave (0.3 - 30 VP-P depending on frequency) / Square wave LO: 0 - 1.5 V, HI: 4 - 30 V
INPUT IMPEDANCE	10 KΩ for magnetic pickup, rotary encoder and proximity switch only
SENSOR POWER SUPPLY	12 VDC ± 5 % (50 mA max.)
VOLTAGE REQUIREMENT	85 - 264 VAC (50/60 Hz) or (9 - 35 VDC at 1 W also available)
POWER CONSUMPTION	1 W (5 W when optional modules are used)
AMBIENT TEMPERATURE	32° - 113° F (0 - 45° C)
WEIGHT	0.55 lb (250 g)
DIMENSIONS	3.46" L x 3.78" W x 1.89" H (88 mm x 96 mm x 48 mm)
WARRANTY	1 year
OPTIONAL ACCESSORIES	Sensors, modules

Features

- Fully scalable
- Accepts various modules; works with a variety of sensors
- Highly accurate
- Direct programming
- Tolerates wide voltage range (85-264VAC 50/60Hz)
- Selectable update time
- Provides DC voltage to power various sensors
- Easy mounting
- Convenient front panel programming
- Self-testing ability

Modules

DOP-FV Module (0 - 10VDC, 4 - 20mA DC Output)
DOP-CP Module (Set Points)

Information on DT-5TG compatible SENSORS can be found on page 31.

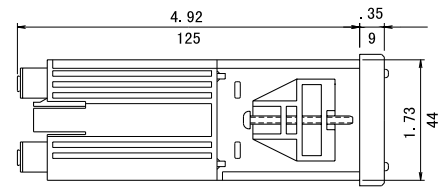
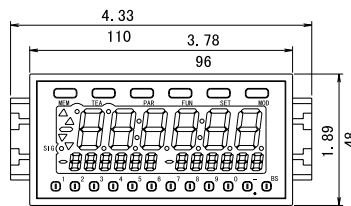
DT-5TS/5TX

Economical unit for speed and process time monitoring

Loaded with features found in more expensive units, the DT-5TX and DT-5TS panel mount tachometer are extremely versatile. Fully scalable and able to measure and display RPM, linear speed/rate, elapsed time and process time; it accepts signals from a variety of sensors, such as pulse generators, proximity sensors, photoelectric sensors, magnetic sensors and NPN OC transistors. One year warranty.

In addition to the functions and options of our popular DT-5TS unit, the DT-5TX panel tachometer also accepts various modules, enabling it to output data for analysis or record keeping. Up to two modules can be accepted simultaneously, offering an enormous number of combinations and options. The DT-5TX measures and displays RPM, linear speed/rate, elapsed time, process time and accepts input signals from most types of sensors available today. One year warranty.

DT-5TS-DC (DC models available)



Specifications

MODEL	DT-5TX / 5TS
MODE	Tachometer / Rate Meter / Elapsed Time / Process Time
DISPLAY RANGE	0 - 999999 with selectable decimal Point 0:00:00 - 9:59:59 or 0.00 - 999.99 sec - 0:00:00 - 0:59:59 or 0.00 - 999.99 sec
SCALABLE	Yes (with outputs, see modules)
ACCURACY	± 0.008 % ± 1 digit
DISPLAY UPDATE TIME	0.2, 0.5, 1, 2, 5, 10, 15, 30, 60 seconds (selectable)
TIME BASE	Controlled by a 16.000 MHz crystal
DISPLAY	6 digit 0.59" (15 mm) high LED (main), 2-6 digit 0.02" (6.5 mm) high auxiliary
INPUT NO. OF P/R	1 - 9,999 (programmable)
INPUT SIGNAL CHARACTERISTICS	NPN open collector input: max. frequency 100 kHz / Contact input: max. frequency 20 Hz / Square wave input: max. frequency 30 kHz - Sine wave input (magnetic pickup): max. frequency 10 kHz
SENSOR POWER SUPPLY	12 VDC (150 mA)
VOLTAGE REQUIREMENT	85 - 264 VAC (50/60 Hz) (9 - 35 VDC at 1 W also available)
AMBIENT TEMPERATURE	32° - 113° F (0 - 45° C)
WEIGHT	0.66 lb (300 g)
DIMENSIONS	5.27" L x 3.78" W x 1.89" H (134 mm x 96 mm x 48 mm)
WARRANTY	1 year
OPTIONAL ACCESSORIES	All Sensors, modules

Features

- Highly accurate (± 0.008% ± 1 digit)
- Fully programmable
- Large 6 digit LED display plus two smaller 6-digit secondary displays
- Fully scalable
- 1/8 din cutout mounting
- Wide range input voltage (85 - 264VAC, 50/60Hz)
- Protected selected parameters with protective cover
- Accepts multiple sensors types
- Provides a DC voltage source
- Selectable update time
- Selectable decimal point
- Accepts output modules (DT-5TX ONLY)

Modules for DT-5TX

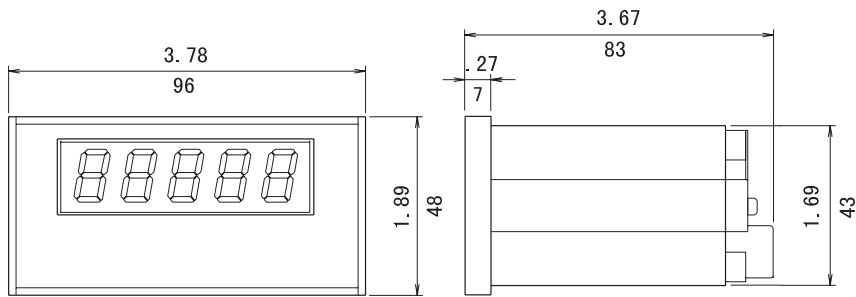
- DOP-CPT - (Set points)
- DOP-TRT - (NPN-O.C. output)
- DOP-FVT - (Analog output)

Information on DT-5TX compatible SENSORS can be found on page 31.

DT-5RL-1 TTL Signal
DT-5RL-2 NPN Open Collector Signal
DT-5RL-3 Magnetic, AC Signal

The economical choice!

Our DT-5RL panel mount tachometer offers a high accuracy rate (0.01% F.S.) usually found in more expensive models. With a 5 digit LED display, this unit is designed to fit a 1/8 panel cutout. The DT-5RL is scalable, enabling it to read and display rotational (rpm) and linear speeds. One year warranty. DC Models available.



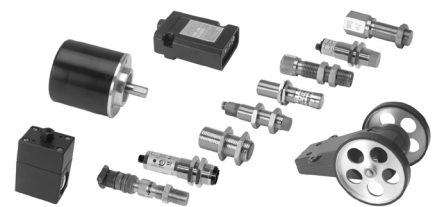
Specifications

MODEL	DT-5RL-1 / DT-5RL-2 / DT-5RL-3
DISPLAY RANGE	0 - 99,999 rpm
ACCURACY	0.01 % F.S.
DISPLAY UPDATE TIME	1 second
DISPLAY	5 digit 0.56" (14.22 mm) high LED
DECIMAL POINT	Selectable
INPUT NO. OF P/R	1 - 9999
INPUT SIGNAL CHARACTERISTICS	DT-5RL-1 accepts TTL signal DT-5RL-2 accepts NPN open collector signal DT-5RL-3 accepts 1-60 VAC signal
INPUT FREQUENCY	5 khz max.
SENSOR POWER SUPPLY	12 VDC (40 mA max.)
VOLTAGE REQUIREMENT	120 VAC or 220 VAC ± 10 %, 50/60 Hz (12, 24, 48 VDC at 1 W also available)
AMBIENT TEMPERATURE	32° - 120° F (0 - 50° C)
WEIGHT	0.7 lb (320 g)
DIMENSIONS	3.67" L x 3.78" W x 1.89" H (83 mm x 96 mm x 48 mm)
WARRANTY	1 year
OPTIONAL ACCESSORIES	Sensors

Features

- Fully scalable
- Selectable PPR (1-9999 pulses per revolution)
- Available in 110 or 220VAC (50/60)Hz / 12VDC
- Provides DC power supply to power various sensors
- Highly accurate (0.01% F.S.)
- Rugged construction

Sensors



Information on DT-5RL compatible SENSORS can be found on page 31.

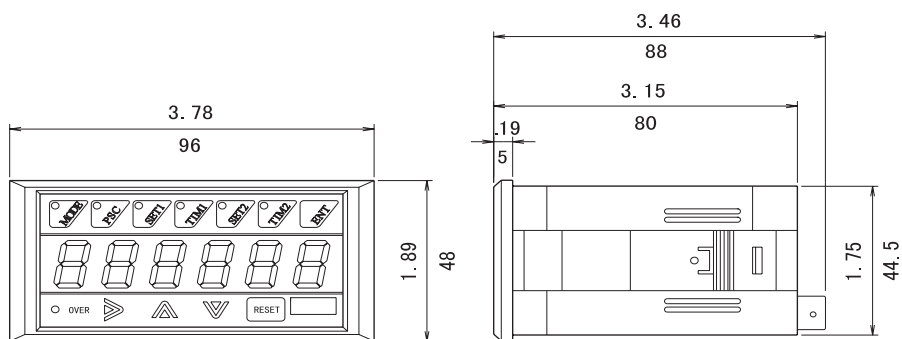
DT-6CG

Features bi-directional counting capability

Our DT-6CG counter is fully programmable, bi-directional and features an automatic multiplier, allowing the unit to count up or down. This model can be used as a "batch" counter/controller to count and display groups of articles such as cartons, cans, bottles etc.

The DT-6CG accepts DOP-PS "pre-set" module to provide output to controllers.

DC models available



Specifications

MODEL	DT-6CG
COUNTER TYPE	Bi-directional, batch
DISPLAY RANGE	-999,999 - +999,999
MEASURING RANGE	-1,999,999 - +1,999,999
RESOLUTION	0, 0.0, 0.00, 0.000 (selectable)
DISPLAY	6 digit, LED, 0.56" high (14.2 mm)
INPUT FREQUENCY	10 KHz max (square wave), 20 Hz (switching contacts)
INPUT SIGNAL CHARACTERISTICS	Square wave or switching contacts
INPUT SIGNAL AMPLITUDE	HI : 4.5 - 30 VDC, LO : 0.4 - 1 VDC, (10 mA, sink)
SENSOR POWER SUPPLY	12 VDC (100mA max.)
VOLTAGE REQUIREMENT	85 - 264 VAC, 50/60 Hz
POWER CONSUMPTION	2 W (5 W when optional modules are used)
AMBIENT TEMPERATURE	32° - 113° F (0 - 45° C)
WEIGHT	0.55 lb (250 g)
DIMENSIONS	3.46" L x 3.78" W x 1.89" H (88 mm x 96 mm x 48 mm)
WARRANTY	1 year
OPTIONAL ACCESSORIES	Sensors, modules

Features

- Bi-directional and batch counting capability
- Fully scalable
- Provides DC voltage to power various sensors
- High input frequency signal capability
- Accepts a wide range of input voltage
- Large 6 digit LED display
- Selectable decimal point
- Memory backup through a ten year EEPROM
- Auto or manual reset

Information on DT-6CG compatible SENSORS can be found on pages 31.

Modules

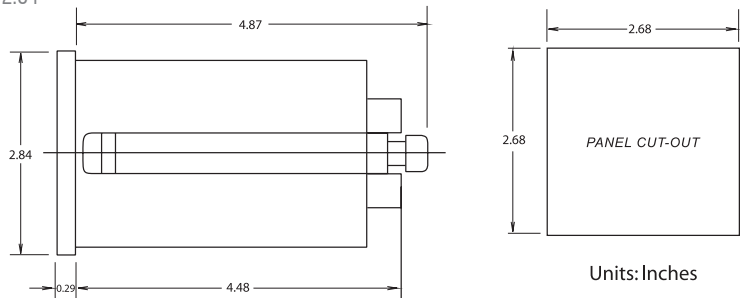
DOP-PS

DT-62CPS 6 Digit, Square

DT-62CPS is an easy to use multifunction counters with dual bright red LED. This 72 mm square counter has two preset features, comes with two independent relay outputs. Terminals for 110V and 220V AC voltage source are available. Can accept NPN type sensors and rotary pulse generators. With user programmable for Up/Down count mode, this unit can be reset externally.

Specifications

2 USER PROGRAMMABLE PRESETS	(6 digits)
DIGITS	-99,999 to 999,999
PRESET DIGITS	0 to 999,999
MAIN DISPLAY	0.4 inch (10mm) Red LED
PRESET DISPLAY	0.3 inch (7.6mm) Green LED
SCALING	0.0001 to 99.9999
DATA BACK UP	EEPROM at least 10 Years
OUTPUTS	2 relay outputs rated at 240V, 5A
VOLTAGE SUPPLY	110V and 220V AC 50/60 HZ
INPUT VOLTAGE	6 to 25VDC (high level) / 2 to -12VDC (low level) / Input Resistance 8.2 K Ω
NON -VOLTAGE INPUT	"ON" impedance 2 K Ω (approximately 2 mA) / "ON" residual voltage 3V max / "OFF" impedance 900 K Ω
AUXILIARY VOLTAGE	12V, 100 mA Max
OPERATING TEMPERATURE	-10C to 55C (14 F to 131 F)
OPERATING HUMIDITY	35% to 85% RH
COUNTING SPEED	Selectable 25 HZ, 300 HZ, 3 kHz
DIMENSIONS	2.68" x 2.68" cutout, w/4.87" x 2.84" x 2.84" overall dimensions



DT-642N 6 Digit, Presetable Counter

DT-642N, 6 digit total preset counter, comes with two relay outputs both rated for 240V 5A AC switching. The display comes in two colors, total display 0.4" orange LED, while preset are 0.3" green LED. External manual reset, which can also be programmed for automatic reset. Auxiliary 12 volts DC supply is included for external sensors. Can be wired for 110V or 220V AC supply. This counter has two setting ranges, and 6-digit target range, which can be set via thumb wheel located on the bottom of the counter. Output relay timer can be programmed from 0.1-9.9 seconds.

Specifications

DIGITS	1 to 999,999
MAIN DISPLAY	0.4 inch (10.16mm) Orange LED
PRESET DIGITS	0.3 inch (7.62 mm) Green LED
PRESET RANGE	1-9,999
RESET	Auto, external manual
POWER SUPPLY	100~240V AC 50/60HZ
DATA BACK UP	EEPROM at least 10 Years
INPUT SIGNALS	
CONTACT	25 HZ
NON-CONTACT	3 kHz
AUXILIARY VOLTAGE	12 VDC, 100mA Max
OPERATING TEMPERATURE	-10C to 55C (14 F to 131 F)
OPERATING HUMIDITY	35% to 85% RH
DIMENSIONS	(2.63" X4.25" X 2.60") dimensions

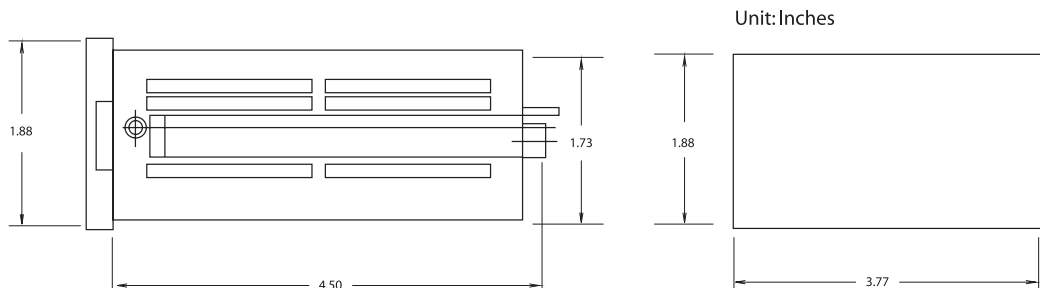


DT-63P 6 Digit, Presetable Counter

DT-63P, 6 digit presetable counter with one preset, this counter has three relay outputs that can be utilized for HI GO LO operation. It includes a timer that can be set from 0.1 to 9.9 seconds. Entering the preset value is accomplished by using the thumb wheel on the front of the panel, making it simple for users that requires faster programming. An external reset and interrupt terminal is provided for remote operation.

Specifications

DIGITS	-99999 to 999,999
MAIN DISPLAY	0.56 inch (14mm) Red LED
PRESET DIGITS	Manual 6 digit thumb wheel
POWER SUPPLY	100~240V AC 50/60HZ
DATA BACK UP	EEPROM at least 10 Years
INPUT VOLTAGE	6 to 25VDC (high level) / 2 to -12VDC (low level) / Input Resistance 8.2 K Ω
NON -VOLTAGE INPUT	"ON" impedance 2 K Ω (approximately 2 mA) / "ON" residual voltage 3V max / "OFF" impedance 900 K Ω
AUXILIARY VOLTAGE	12 VDC, 100mA Max
OPERATING TEMPERATURE	-10C to 55C (14 F to 131 F)
OPERATING HUMIDITY	35% to 85% RH
DIMENSIONS	(3.77" X1.88" X 4.50")



DT-60N 6 Digit, totalizer counter

DT-60N, is a panel mount 6 digit totalizer counter with external interrupt. It can be programmed for up or down count operation. Auxiliary 12-volt supply is provided in this unit for external sensors. It features data back up that can be retained for up to 10 years. Terminal for external reset is provided.

Specifications

DIGITS	-99999 to 999,999
MAIN DISPLAY	0.56 inch (14mm) Red LED
INPUT MODE	20Hz (LO settings), 3 khz (HI settings)
POWER SUPPLY	100~240V AC 50/60HZ
DATA BACK UP	EEPROM at least 10 Years
VOLTAGE SUPPLY	110V and 220V AC 50/60 HZ
INPUT VOLTAGE	6 to 25VDC (high level) / 2 to -12VDC (low level) / Input Resistance 8.2 K Ω
NON -VOLTAGE INPUT	"ON" impedance 2 K Ω (approximately 2 mA) / "ON" residual voltage 3V max / "OFF" impedance 900 K Ω
AUXILIARY VOLTAGE	12 VDC, 100mA Max
OPERATING TEMPERATURE	-10C to 55C (14 F to 131 F)
OPERATING HUMIDITY	35% to 85% RH
DIMENSIONS	(3.77" X1.88" X 4.50")

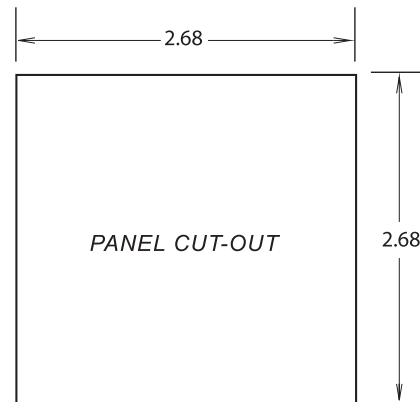
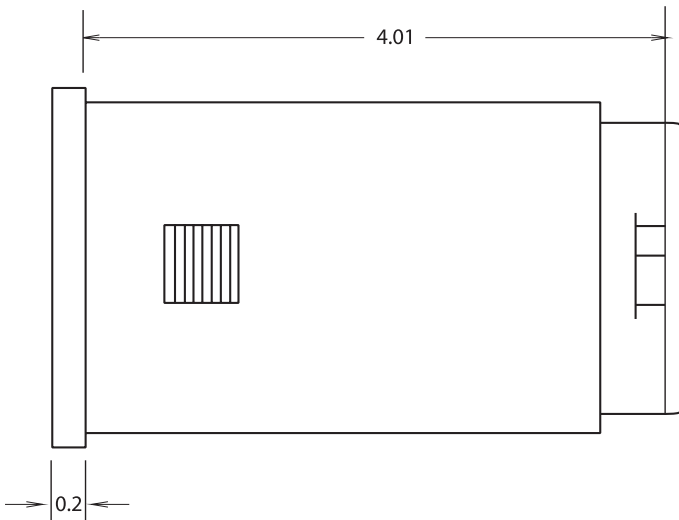


DT-42CPS 4 Digit, Square

DT-42CPS is a 1/16 Din 4 digit counters with 2 programmable presets; it includes an auxiliary 12-volt supply for powering external NPN type sensors. This unit has a front button protect feature for saving the setting from being accidentally changed. Terminal for external reset is provided.

Specifications

2 USER PROGRAMMABLE PRESETS	(4 digits)
DIGITS	-999 to 9,999
PRESET DIGITS	0 to 9,999
MAIN DISPLAY	0.4 inch (10mm) Red LED
PRESET DISPLAY	0.3 inch (7.6mm) Red LED
INPUT MODE	Contact Input – 20Hz, Non-contact Input: 1 KHz
INPUT SIGNAL	NPN type 4.7 KΩ
POWER SUPPLY	100~240V AC 50/60HZ
DATA BACK UP	EEPROM at least 10 Years
OUTPUTS	2 relay outputs rated at 250V, 5A
AUXILIARY VOLTAGE	12V, 100 mA Max
AUXILIARY VOLTAGE	12V, 100 mA Max
OPERATING TEMPERATURE	-10C to 55C (14 F to 131 F)
OPERATING HUMIDITY	35% to 85% RH
DIMENSIONS	(2.68" x 2.68" x 4.01" overall dimensions)



Unit: Inches

Panel Counter Sensor Chart

	DT-5TG	DT-5TG-1	DT-5TG-2	DT-5TX	DT-5TS	DT-5RL-1	DT-5RL-2	DT-5RL-3	DT-6CG
Magnetic									
MP - 10	x	x	x	x	x			x	
3030AN	x	x	x	x	x			x	
3070A (Explosion Proof)	x	x	x	x	x			x	

	DT-5TG	DT-5TG-1	DT-5TG-2	DT-5TX	DT-5TS	DT-5RL-1	DT-5RL-2	DT-5RL-3	DT-6CG
Proximity									
DJ2 - G				x	x				
B12 - S12	x	x	x	x	x		x		x
SE - G (Gear Sensor)	x	x	x	x	x		x		x
MCS - 3109	x	x	x	x	x		x		x

	DT-5TG	DT-5TG-1	DT-5TG-2	DT-5TX	DT-5TS	DT-5RL-1	DT-5RL-2	DT-5RL-3	DT-6CG
Photo Retro-Reflective									
MCS - 655	x	x	x	x	x		x		x
RS - 220HR	x	x	x	x	x		x		x
MCS - 625	x	x	x	x	x		x		x

	DT-5TG	DT-5TG-1	DT-5TG-2	DT-5TX	DT-5TS	DT-5RL-1	DT-5RL-2	DT-5RL-3	DT-6CG
Rotary Pulse Generators									
RE1B - 60C (60PPR)	x	x	x	x	x	x			x
RE1B - 600C (600PPR)	x	x	x	x	x	x			x
RE1B - 1000C (1000PPR)	x	x	x	x	x	x			x
RE2B - 30C (Dual Output 30PPR)									x
RE2B - 60C (Dual Output 60PPR)									x
RE2B - 600C (Dual Output 600PPR)									x

	DT-5TG	DT-5TG-1	DT-5TG-2	DT-5TX	DT-5TS	DT-5RL-1	DT-5RL-2	DT-5RL-3	DT-6CG
Speed / Length									
LSL - 3A2 (single output)	x	x	x	x	x	x			x
LSL - 3A3 (dual output)									x
Contact Closure (Relay or Solenoid)	x	x	x	x	x				x
Voltage / Current Input									

Modules	DT-5TG	DT-5TG-1	DT-5TG-2	DT-5TX	DT-5TS	DT-5RL-1	DT-5RL-2	DT-5RL-3	DT-6CG
DOP - 1A (Converts 5TG to 5TG - 1)	x								
DOP - 2A (Converts 5TG to 5TG - 2)	x								
DOP - CP (Triple "A" relay Output)		x	x						
DOP - FV (Voltage or Current Output)		x	x						
COP - PS (Pre-Set)									x

	DT-5TG	DT-5TG-1	DT-5TG-2	DT-5TX	DT-5TS	DT-5RL-1	DT-5RL-2	DT-5RL-3	DT-6CG
Terminal Block Connectors									
DOP - CPT (Triple "C" relay Output)				x					
DOP - TRT (NPN Open Collector Output)				x					
DOP - FVT (Voltage or Current Output)				x					

	DT-5TG	DT-5TG-1	DT-5TG-2	DT-5TX	DT-5TS	DT-5RL-1	DT-5RL-2	DT-5RL-3	DT-6CG
36-Pin Connectors									
DOP - TRC (NPN Open Collector Output)				x					
DOP - FVC (Voltage or Current Output)				x					

note: the DJ2-G sensor no longer works with the DT-5TG, DT-5TG-1 or DT-5TG-2 panel meters.

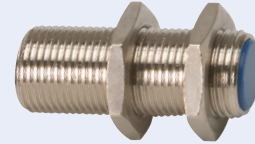
Proximity Sensors

DJ2-G

DJ2-G is an economical solution for proximity sensing switch. DJ2-G is designed to detect metal when placed in front of a sensing surface. Metal objects positioned adjacent to or behind the sensor will not normally be detected. Features a pre-wired, 6.5 ft. cable assembly, zero-sensing capability, lightweight and small package size. It can be used with a single projection head or a 10DP gear.

Specifications

ACTIVATING DISTANCE WITH IRON OBJECT	2mm (0.079")
ACTIVATING DISTANCE WITH ALUMINUM	Max 1 kHz
CABLE LENGTH	2M (6.5) ft.
MOUNTING THREAD	M14 x 1
DIMENSIONS	(M14 x 1) x 32 mm (1.25")

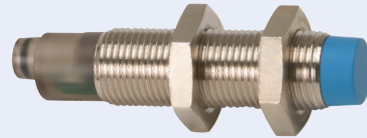


BI2-S12

The BI2-S12 is a 3 wire DC inductive proximity switch. It features an LED for indicating output. Other features include short circuit and overload protection. BI2S-12 Meets NEMA ratings 1, 3, 4, 6, 13, and IEC IP67.

Specifications

SENSING RANGE	2mm
POWER	10-30VDC
CABLE LENGTH	6.5 feet
MOUNTING THREAD	M12 x 1
SWITCHING FREQUENCY	1.5 KHz
CABLE LENGTH	2M (6.5 ft)
DIMENSIONS	(M12 x 1) x 50 mm (1.97")

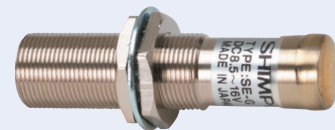


SE-G

SE-G is a solid state three-wire proximity (switching) sensor specially designed for gear sensing. The unit provides a square wave output signal and indicates detection via LED indicator, mounted on the rear of the unit. (Gear pitch must be between 16.93 and 25.4)

Specifications

SENSING RANGE	1 mm
VOLTAGE INPUT	16 VDC (50mA)
MAXIMUM FREQUENCY	8 kHz
OUTPUT IMPEDANCE	2.2 KΩ
OPERATING TEMPERATURE	-20C to 70C (-4F to 158F)
CABLE LENGTH	.5M (1.5 feet)
DIMENSIONS	(M14 x 1) x 65 mm (2.56")

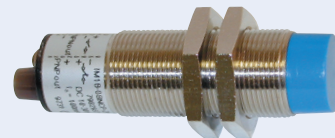


MCS-3109

MCS-3109 is a complimentary (NPN-NO and NPN-NC) proximity switch (sensor) normally used in areas where high-vibration and a greater sensing distance is required. MCS-3109 meets IP67/NEMA 4 ratings.

Specifications

SENSING RANGE	8 mm (.32")
ACTIVATING FREQUENCY	300Hz
VOLTAGE INPUT REQUIRED	10-30VDC
OUTPUT CURRENT	200mA
HOUSING	Nickel plated brass
OPERATING TEMPERATURE	-25C to 70C (-13F to 158F)
PROTECTION	IP67 / NEMA 4
CABLE LENGTH	1.8m (6 feet)
MOUNTING THREAD	M18 x 1
DIMENSIONS	(M18 x 1) x 60 mm (2.36")



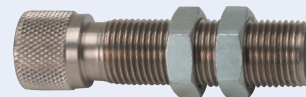
Magnetic Pick-Up Sensors

MP-10 Magnetic Pick-Up Sensor

MP-10 is a economical general-purpose magnetic sensor. The unit is designed to mount in a 5/8"-18 threaded hole with included securing jam nut. A ten foot cable is included and is hard wired. MP-10 provides a sign wave output whenever an abrupt change from non-magnetic to magnetic material moves past the sensor pole. The magnetic voltage is directly proportional to the change in magnetic flux intensity, over the change in time.

Specifications

SENSOR RANGE	0.01 " typical clearance
OPERATING TEMPERATURE	-40 F to 221 F
CABLE LENGTH	10' (3.05 M)
DIMENSIONS	15.88 x 69.44 mm (.625 x 2.734")



3030AN Magnetic Pick-Up Sensor

3030AN magnetic pick-up sensor comes equipped with "Amphenol" connector. 3030AN requires sensor cable assembly part number CABLE-3030. This general-purpose unit is designed to mount in a 5/8"-18 threaded hole and is provided with a jam nut for secure sensor mounting. Model 3030AN provides a sign wave output whenever an abrupt change from non-magnetic to magnetic material moves past the sensor pole. The magnetic voltage is directly proportional to the change in magnetic flux intensity, over the change in time.

Specifications

SENSOR RANGE	0.01 " typical clearance
OPERATING TEMPERATURE	-100F to 225F (-73C to 107C)
MOUNTING THREAD	5/8" x 18
CABLE	w/ connector, length; 3.05M (10')
DIMENSIONS	19 x 57.15 mm (.75" x 2.25")

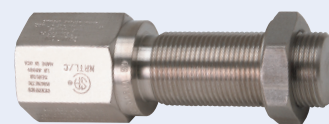


3070A Magnetic Pick-Up Sensor

Specifically engineered for use in the oil and petrochemical industries, this stainless steel sensor is completely sealed and explosion-proof. Low impedance allows for transistor circuit input. When mated with conduit, it provides positive protection against damage due to water, high humidity, oil, dirt, or corrosive liquids. ATEX listed for II 2 GExm II T3. Explosion proof for gas, vapor, and liquid.

Specifications

SENSOR RANGE	0.01 " typical clearance
OPERATING TEMPERATURE	-40F to 200F (-40C to 93C)
OUTPUT VOLTAGE	60V P-P
COIL RESISTANCE	280 Ohms
INDUCTANCE	115mH max.
GEAR PITCH OPTIMUM	8 DP
GEAR PITCH RANGE	12 DP or Coarser
MAXIMUM OPERATING FREQUENCY	40 kHz typical
MOUNTING THREAD	3/4 - 20
DIMENSIONS	19.05 x 79.4 mm (3/4 - 20 x 3.125")



Measuring Sensors

LSL-3A Series Linear Speed and Length Measuring Sensors

The LSL Shimpo series of continuous-use compact steel sensors offer the user capability of measuring length in meters or yards and rate in different engineering units simply by interchanging the wheels assembly, while the electronics stay the same. This series of (in conjunction with the proper meter or counter) measure length in meters, yards and rate in different engineering units by changing only the wheel assembly.

Specifications

SUPPLY VOLTAGE	DC 12v
CURRENT CONSUMPTION	40mA or below
OUTPUT IMPEDANCE	4.7 KΩ
RESPONSE FREQUENCY	10 KHz
OPERATING TEMPERATURE	-10C to 60C
CABLE LENGTH	4 feet
LSL-3A2 SINGLE OUTPUT WITHOUT DISPLAY	0.1 M/YD One Direction
LSL-3A3 DUAL OUTPUT WITHOUT DISPLAY	0.1 M/YD One Direction



Retro-Reflective Sensors

LS-S50ML Laser Sensor-Color Contrast

LS-S50ML is a laser sensor that can be taught to recognize difference in colors. It is a class 1 red laser with switching frequency of 1.5 KHZ. Contained in a metal housing with 6 ft of cable, which can be utilized for different operations including stroboscopes, counters and panel tachometers. It includes a trimmer potentiometer that is located on the side for minimum and optimum sensitivity adjustments. Can be used in normally closed or normally open operation, NPN type of output, with a yellow LED for signal indication and a green LED for power.

Specifications

OPERATING RANGE TYPICAL	1.15" (350 mm)
OPERATING TEMPERATURE	-10C to 50C (14F to 122F)
POWER INPUT	10-30VDC
OUTPUT CURRENT	100mA max
ACTIVATION FREQUENCY	1.5 kHz
HOUSING	Metallic housing IP67 type 1 enclosure
CABLE LENGTH	6 feet (2 Meters)
MOUNTING	M18 X 1
EMISSION TYPE	Red Laser: Class 1 EN 60825-1 / Max power: 1 mW / Pulse: 4.5 uS / Wavelength: 630..680 nm
DIMENSIONS	(M18 x 1) x 67 mm (2.64")



RS-220HR Retro-Reflective Sensor

RS-220HR is a retro reflective photo sensor consisting of an infrared LED light source, sensing circuit and amplifier, which is contained in a heavy duty, all metal housing. A general purpose sensor, featuring an operating range up to 500Hz. RS-220HR includes a green stability LED indicator lamp, located on the back of the housing for initial alignment purposes.

Specifications

OPERATING RANGE	1.5" to 8" (28mm to 200mm)
OPERATING TEMPERATURE	-25C to 70C (13 F to158 F)
POWER INPUT	10-30VDC
OUTPUT CURRENT	200mA
ACTIVATION FREQUENCY	500Hz
HOUSING	"ZAMA" metal alloy
WEIGHT	"ZAMA" metal alloy
FREQUENCY	270g (9.5 oz)
CABLE LENGTH	10 feet (3 Meters)
MOUNTING	Threaded holes: M4 x 5
DIMENSIONS	65 x 21 x 43 mm (2.56" x .83" x 1.70")



MCS-625 Retro-Reflective Sensor

MCS 625 is a retro-reflective photo sensor consisting of an infrared source, sensing circuit and amplifier, which are contained in a heavy-duty housing. For initial alignment purposes, a small indicator lamp is located in the top of the sensor housing. The MCS-625 has an open collector output and requires a pull up resistor.

Specifications

OPERATING RANGE	1.0 " to 3 feet (254 mm to 914.4 mm)
OPERATING TEMPERATURE	-30 C to 50 C (-22 F to 122 F)
POWER INPUT	12 – 18 VDC at 35 to 50mA
OUTPUT	250mA (max) , Open collector type sink current
ACTIVATING FREQUENCY	250Hz
CASE	Zinc die-cast
WEIGHT	18.5 oz
MOUNTING	6/32 UNC28 x 200
CABLE LENGTH	10 feet
DIMENSIONS	53.9 x 70.2 x 41.20 mm (2.125" x 2.765" x 1.625")



MCS-655 Retro-Reflective Sensor

MCS-655 is a general-purpose retro-reflective NPN open collector photo-sensor. MCS-655 incorporates a complimentary switching voltage output (light/dark activated) that operates up to 333Hz. An LED is mounted on the top of the unit along with a sensitivity adjustment pot for alignment purposes.

Specifications

OPERATING RANGE	3 feet (914.4 mm)
OPERATING TEMPERATURE	-25 C to 55 C (-13 F to 131 F)
POWER INPUT	10 – 30 VDC at 30mA
MAXIMUM CURRENT SINKING	100mA , NPN Open collector
ACTIVATING FREQUENCY	333 Hz
OPERATING PROTECTION	IP66 / NEMA4
CABLE LENGTH	6 feet
DIMENSIONS	(M18 x 1) x 63.3 mm (2.50")



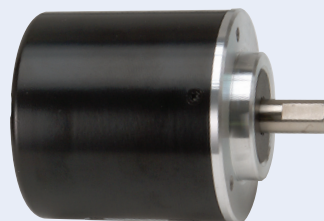
Rotary Pulse Generators

RE1B-60C Rotary Pulse Generator

RE1B-60C is a solid state, rotary pulse generator, which produces 60 digital pulses per shaft revolution.

Specifications

RESOLUTION	60 Pulses shaft revolution
MAXIMUM SPEED	5000 RPM
POWER SUPPLY	4.75 – 30VDC, 50mA (max)
OUTPUT VOLTAGE	logic "1" ...Vs – 2.5V, 10mA (max) / Logic "0" ... less the 0.4V, 30mA (max)
SHAFT TORQUE	0.41 oz-in, 30 g-cm (max)
SHAFT ALLOWABLE LOAD	Overhung load 11 lbs. (5Kg) / Thrust load 6.6 lbs. (3Kg)
CABLE LENGTH	10 feet
OPERATING TEMPERATURE	-10 C to 50 C (14 F to 122 F)
WEIGHT	8.8 oz (250g)
CONSTRUCTION	Aluminum housing
MOUNTING	Base or Face mounting, "L" Bracket with mounting screws included



RE1B-600C Rotary Pulse Generator

RE1B-600C is a solid state, rotary pulse generator, which produces 600 digital pulses per shaft revolution.

Specifications

RESOLUTION	600 Pulses shaft revolution
MAXIMUM SPEED	3000 RPM

RE1B-1000C Rotary Pulse Generator

1000 digital output pulses per shaft revolution. RE1B-1000C is a solid state, rotary pulse generator, which produces 1000 digital pulses per shaft revolution.

Specifications

RESOLUTION	1000 pulses shaft revolution
MAXIMUM SPEED	3000 RPM

RE2B-30C, RE2B-60C, RE2B-600C Rotary Pulse Generators

Dual (90° out of phase) digital pulses for quadrature applications. Also a zero position (third output) is available to mark the reference position of the shaft. Maximum speed: 3000 RPM and 5000 RPM respectively. RE1B-60C is a solid state, rotary pulse generator, which produces 60 digital pulses per shaft revolution

Specifications

RESOLUTION	30/60/600 Pulses per shaft revolution
POWER SUPPLY	4.75 – 30VDC, 60mA (max)
OUTPUT VOLTAGE	logic "1" ...Supply Voltage minus 2.5 V or more, 10mA (max) / Logic "0" ... less the 0.4V, 30mA (max)
DUTY CYCLE	50% (+/- 25%)
QUADRATURE OUTPUT PHASE	90 degree +/- 45 degree
ZERO SIGNAL WIDTH	50- 150% of the signal cycle
SHAFT TORQUE	0.41 oz-in, 30 g-cm (max)
SHAFT ALLOWABLE LOAD	Overhung load 11 lbs. (5Kg) / Thrust load 6.6 lbs. (3Kg)
CABLE LENGTH	1.6 feet
OPERATING TEMPERATURE	-10 C to 50 C (14 F to 122 F)
WEIGHT	8.8 oz (250g)
CONSTRUCTION	Aluminum housing
MOUNTING	Base or Face mounting, "L" Bracket with mounting screws included

Low Cost Proximity Sensors

QL and TS Proximity Sensors

Low cost proximity sensors with various sensing ranges and sizes. It comes with six feet of shielded cable for added convenience.

Specifications

PART NUMBER	QL-1805	QL-1808	TS-0802	TS-1805	TS-3015
BODY TYPE	Square	Square	Round	Round	Round
SENSING DISTANCE	5 mm	8 mm	2 mm	5 mm	15 mm
SIGNAL TYPE	NPN	NPN	NPN	NPN	NPN
SWITCH STATE	Normally Open	Normally Open	Normally Open	Normally Open	Normally Open
DIMENSIONS	18.00 mm x 35.35 mm x 17.75 mm		6.90mm x 44.50 mm	18.0 mm x 42.0 mm	27.45 mm x 54.75 mm



Slot Sensors

CM-SR25, 25 mm Gap

CM-SR25 is a dual type slot sensor that can be wired for NPN or PNP switching. Housed in an aluminum casing, it has a wide activation frequency up to 7 KHZ. This sensor can be set to recognize variance in colors, application where the emitter should be able to burn through the collector for optimum performance. Can be used as an encoder, for feedback and counting application. Separate 5-meter cable part number CBL-4AEL is not included with this unit.

Specifications

OPERATING FREQUENCY	7 kHz max
OPERATING TEMPERATURE	0 to 55 C (32F to 131F)
POWER INPUT	10 to 30 V DC
HOUSING	Anticorodal Aluminum IP65 protection Class
WEIGHT	66 g (2.2 oz)
CONNECTIONS	M12 x 4 pole threaded connector
EMISSIONS TYPE	Infrared (880nm)
INDICATORS	OUT LED (Yellow) / Error LED (Red) / Ready LED (Green)
RESPONSE TIME	70us
OUTPUT TYPE	NPN or PNP
DIMENSIONS	20 mm x 47 mm x 85 mm



CM-SR21, 2 mm Slot Gap

CM-SR21 is a smaller version of the CM-SR25, with additional auto set feature. It is used in less dense materials mostly in products that allows burn through of the beam from the emitter to the collector. The amount of light received from the emitter is used to distinguish variances in color. Housed in a ZAMA type enclosure, rated for IP65 protection. This sensor can be used in both NPN and PNP output type. Separate 5-meter Cable part number CBL-75ANL not included in this unit is needed.

Specifications

OPERATING FREQUENCY	7.5 kHz max
OPERATING TEMPERATURE	0 to 55 C (32F to 131F)
POWER INPUT	10 to 30 V DC
OUTPUT CURRENT	100mA max
HOUSING	ZAMA IP65 protection Class
WEIGHT	115 g (3.83 oz)
CONNECTIONS	M8 x 4 pole threaded connector
EMISSIONS TYPE	Infrared (880nm)
INDICATORS	Bi-colour LED Ready/ Error / Error LED (Red) / Ready LED (Green) / Response time: 66 us max
OUTPUT TYPE	NPN or PNP
DIMENSIONS	20 mm x 18 mm x 97.5 mm



Rate and Counting Applications

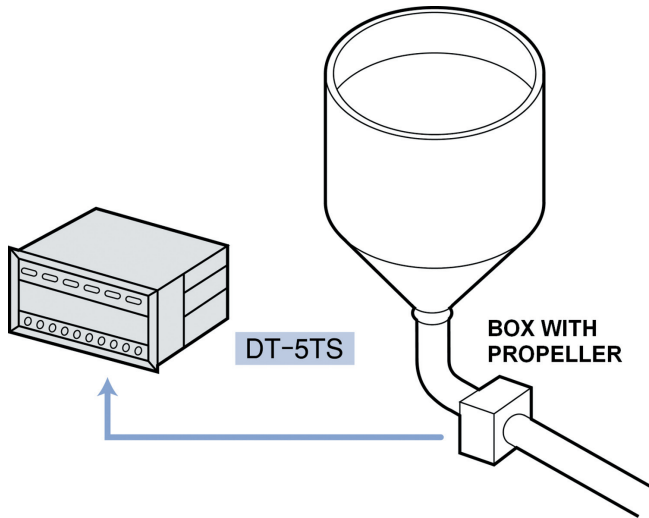
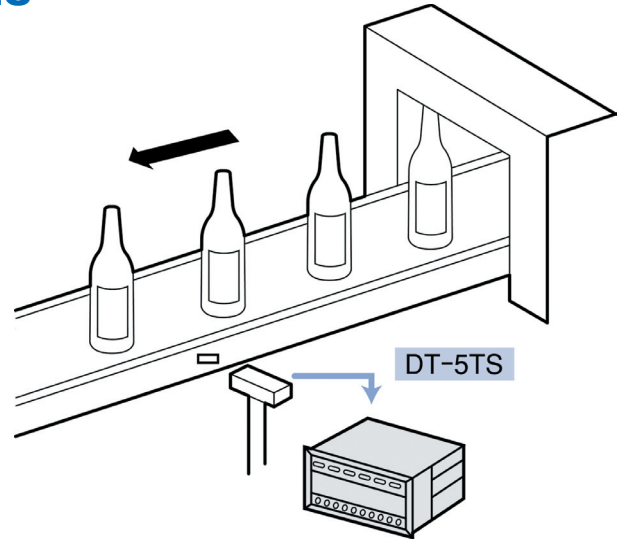
- Speed measurement/process timer
- Direct counting

Direct Rate Measurement

Bottling / Packaging Operations call for rate measurements of units/time.

Example: Bottles/minute, cans/hour, pills/second, boxes/second, etc.

Bright digital display shows user selectable units/time



Flow Monitoring

Bright digital display shows rate of flow in units of measure vs. time.

Example: Gallons(paint)/minute or barrels(oil)/hour.

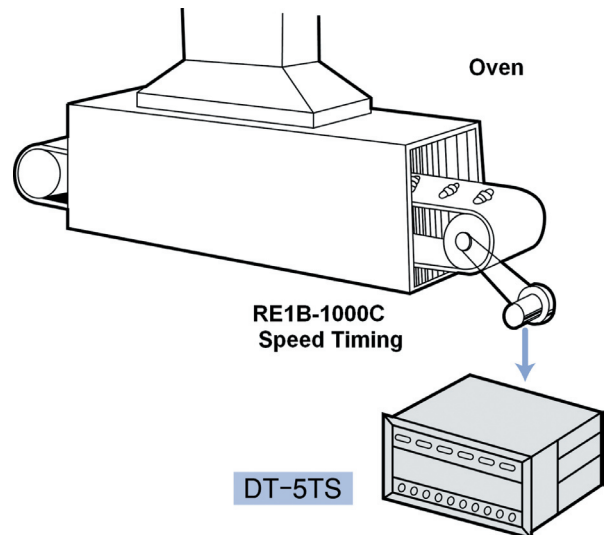
Bright digital display. Calculation to be made between propeller speed and flow rate.

Oven Process Timing

Many tool and manufacturing process applications require a fixed duration of time for heating, heat treatment, annealing or baking.

Process time is user selectable in hours / minutes / seconds.

Bright digital display showing baking time of spark plug components in a furnace.



Rate and Counting Applications

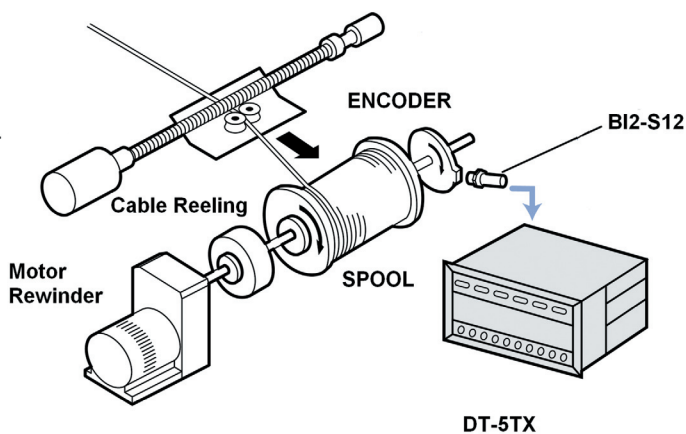
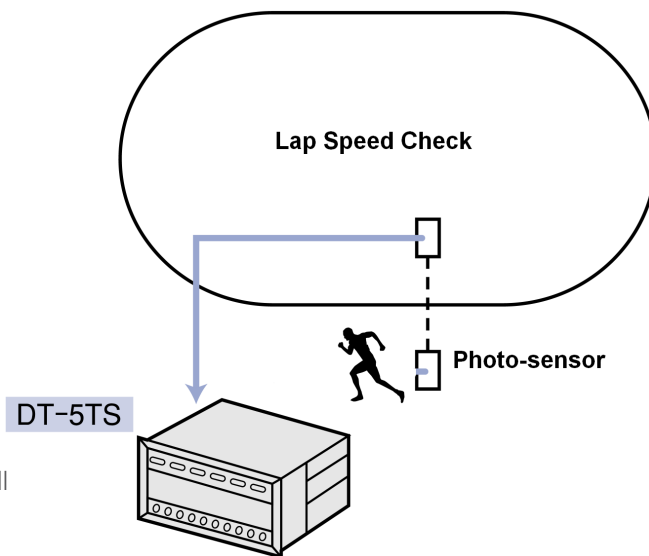
- Speed measurement/process timer
- Direct counting

Process Time / Event Timing

DT-5TS with retro reflective sensor provides true timing of process events.

Example: Runner crossing the beam of a retro reflective sensor, thereby beginning the “time” of the event. After one lap, the process (runner's time trial) is terminated, allowing operator to determine event time.

Application can be in process timing of bottling, gypsum/wall board manufacturing, food preparation, curing times, and many more.

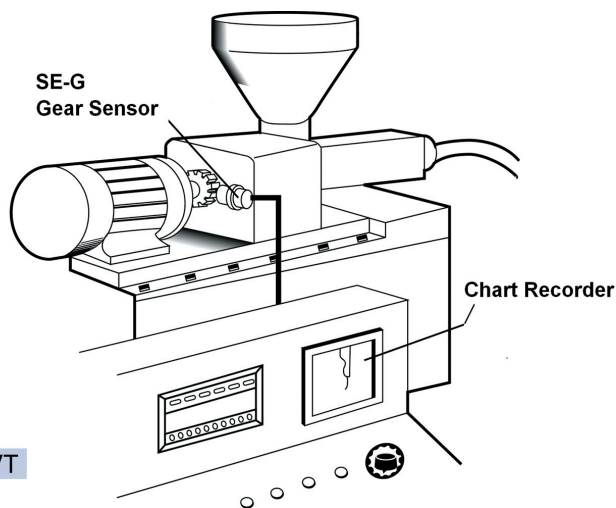


Cable Reel Winding

Use of rotary encoder allows precise winding and/or rewinding of wire and cable, yarn or fiber on to a reel or spool. The encoder provides feedback to alignment head motor controller. This allows the alignment head to reverse direction winding or rewinding at end of the reel or spool.

Plastic Extrusion Process

SE-G gear sensor and DT-5TX panel meter with DOP-FVT module can scale output speed proportional to voltage or current. Operator can feed this Analog signal to a strip chart recorder. Operator can monitor extrusion shaft speed / extrusion rate and record actual rate.



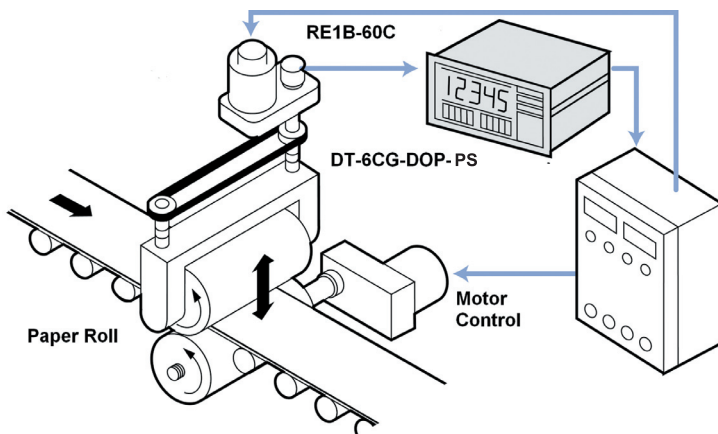
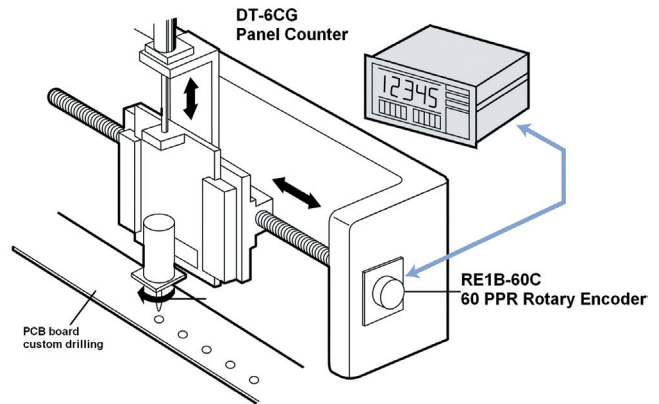
Rate and Counting Applications

- Speed measurement/process timer
- Direct counting

Direct Counting and Process Feedback Control

Panel counters coupled with rotary encoder provided accurate hole placement for additional production steps.

Example: Counter triggers online custom hole drilling after each rotation of ball screw drill control head.

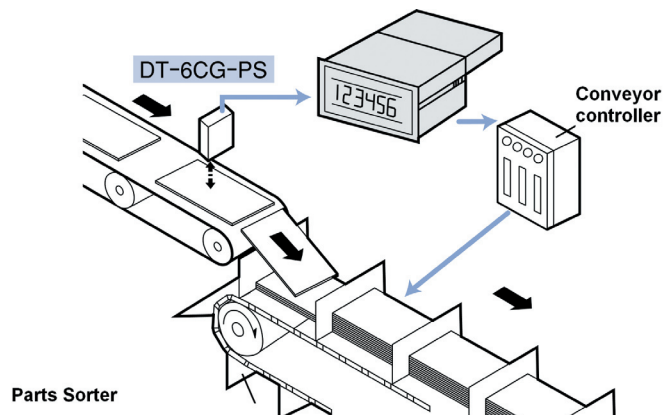


Printing

Example: Panel counter receives pulses from rotary encoder; sends count to motor controller to synchronize top and bottom rollers in printing operations.

Parts Sorting

Example: Panel counter DT-6CG with COP-PS preset output module allows control of parts in “batches” or allows presets in positive and negative domains, and provides a secondary slave output with up to 99.9 second time delay.



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SHIMPOINSTRUMENTS



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