

FASTENING COUNTER WITH POKA-YOKE UTM-1500 SERIES

URYU fastening counter **UTM-1500 series** count down the number of bolts or nuts precisely by detecting the pressure fluctuation generated inside the air motor section in usage of the air tool.
If all the required number of bolts or nuts is not fastened up accidentally, this fastening counter system controller informs you by both the display and the buzzer to ensure the perfect fastening.



UTM-1500(PS): Pressure Sensor Incorporated type
By connecting the TM signal hose from a tool to the coupler at the back of the controller, the pressure sensor incorporated in the controller converts the air pressure signal into the electric signal.



UTM-1500(CN): Connector Incorporated type
By connecting the pressure sensor (external pressure sensor assembly) attached to a tool to the connector at the back of the controller, the controller supplies the power and loads the analog signal.

Features

- Applicable to the pneumatic tools such as the oil pulse wrenches, impact wrenches etc. (Tool should be modified into the TM type because the controller basically detects the back pressure.)
- Counting down the fastening number, error proofing by the display and buzzer.
- Easy parameter setup of the controller by front key switches followed to the front panel LCD. (It is possible to set up the parameters through a personal computer as well.)

Functions

- Easy setup for the pressure values by the automatic setup feature.
- Up to 1500 tightening time and judgement data points stored.
- Each buzzer volume level of fastening recognition, panel and NOK operation adjustable.
- Work select feature available for four different works with different numbers of fasteners.
- By equipping the external input/output terminal block (free format), inter lock with the line is possible.
- Parameters receivable/sendable, and wave data, memory data and the total numbers of fasteners receivable through PC. (Total numbers of pulse receivable in usage of the external pressure sensor assembly.)
- Measurement and display of the fastening time possible for the shut off tools.
- External pressure sensor assembly equipped for UTM-1500(CN) enables to count the pulse number so that the pulse number control becomes possible other than the fastening time control. (The pulse number cannot be detected sometimes depending on a tool or working conditions.)
- Tool maintenance determined by the total numbers of fasteners or pulse possible. (external pressure sensor assembly needed.)



Model Name	Voltage & Frequency	Operating ambient temperature & humidity	Dimensions mm(in)	Weight Kg(lb)
UTM-1500A/E (PS)	115V / 230V 50Hz / 60Hz	0 - 50 degree (no freeze) less 90%RH (no dewfall)	200 X 210 X 100 (7 7/8 x 8 17/64 x 3 15/16)	2.05 (4.51)
UTM-1500A/E (CN)				2.03 (4.47)
UTM-1500A/E (RA-PS)	115V / 230V 50Hz / 60Hz	0 - 50degree (no freeze) less 90%RH (no dewfall)	280 X 220 X 420 (11 1/32 x 8 21/32 x 16 17/32) (c/w rack)	6.45 (14.19)
UTM-1500A/E (RA-CN)				6.43 (14.15)

* TM convertible model : Various kinds of tools can be converted into TM type. Please ask your local Uryu distributor for details.
UTM-1500A is the 115V use, while UTM-1500E is the 230V use.

FASTENING COUNTER WITH POKA-YOKE UTM-1500 SERIES (Option)

Tool Connection

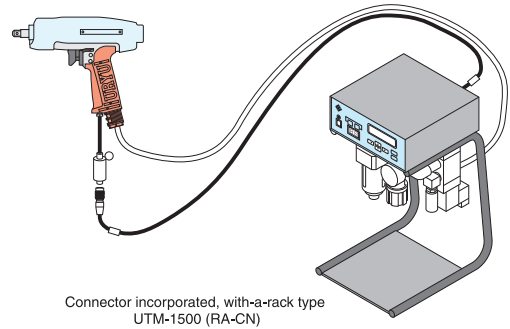
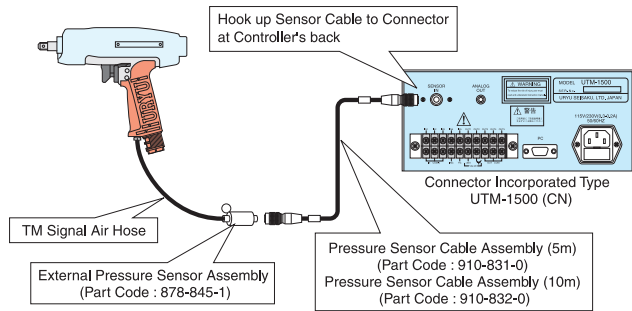
Shut-off Tool

UTM-1500(CN) & External Pressure Sensor Assembly

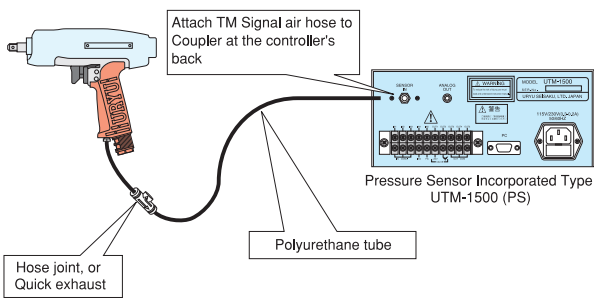
* Please install the external pressure sensor assembly to a tool as close as possible. In use of the pulse number count, external pressure sensor assembly should be attached near to a tool handle.

UTM-1500(RA-CN) & External Pressure Sensor Assembly

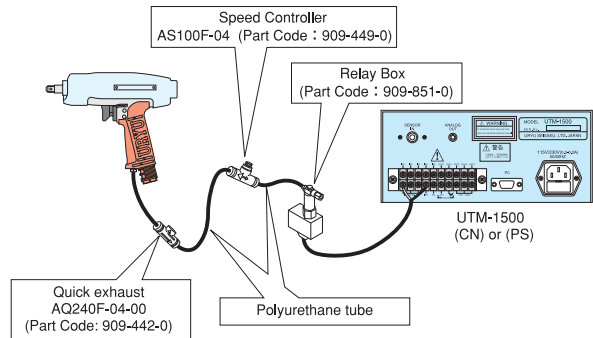
* Same wiring as in the case of UTM-1500(CN) & External Pressure Sensor Assembly (left figure)



UTM-1500 (PS)



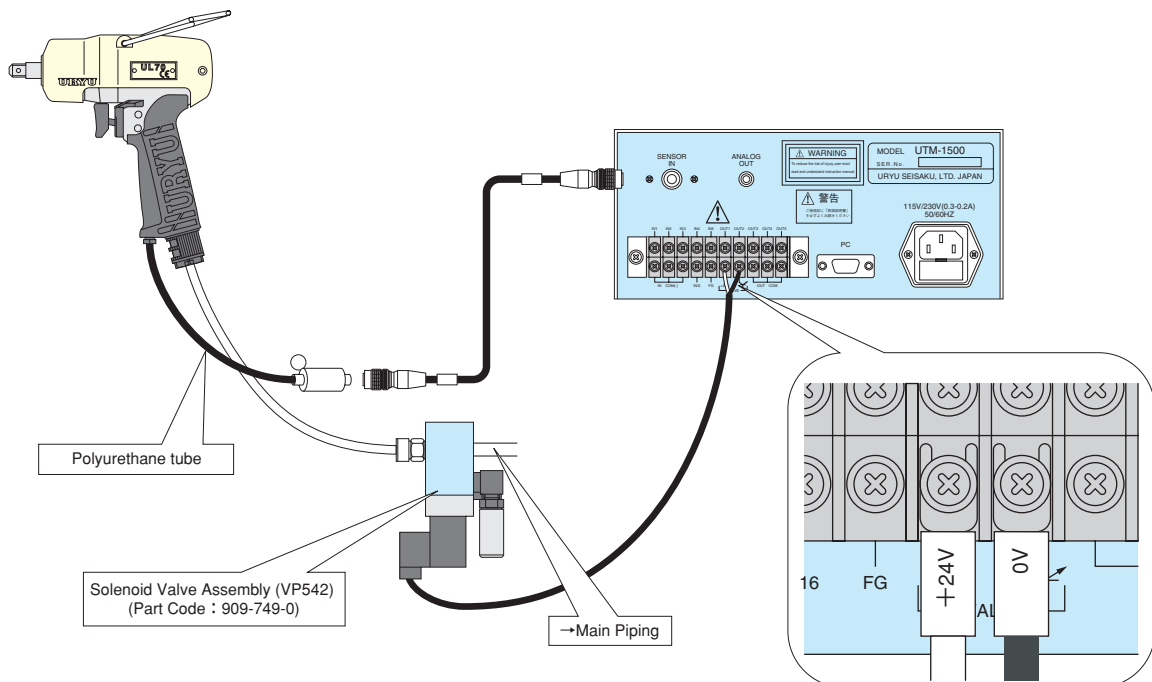
UTM-1500 (PS) or (CN) & Relay Box Assembly



Standard TM tool

UTM-1500(CN)

Solenoid valve is incorporated in the rack type, UTM-1500(RA-CN), so that you only need to connect a tool and controller.



UTM-1500(PS)

Referring to the above figure, please connect the TM signal hose ($\phi 4$) from a tool to the connector at the back of the controller.

SUPER "INTELEC" SYSTEM UEC-4800(SD) SERIES CONTROLLER

◆ UEC-4800A/E(SD)

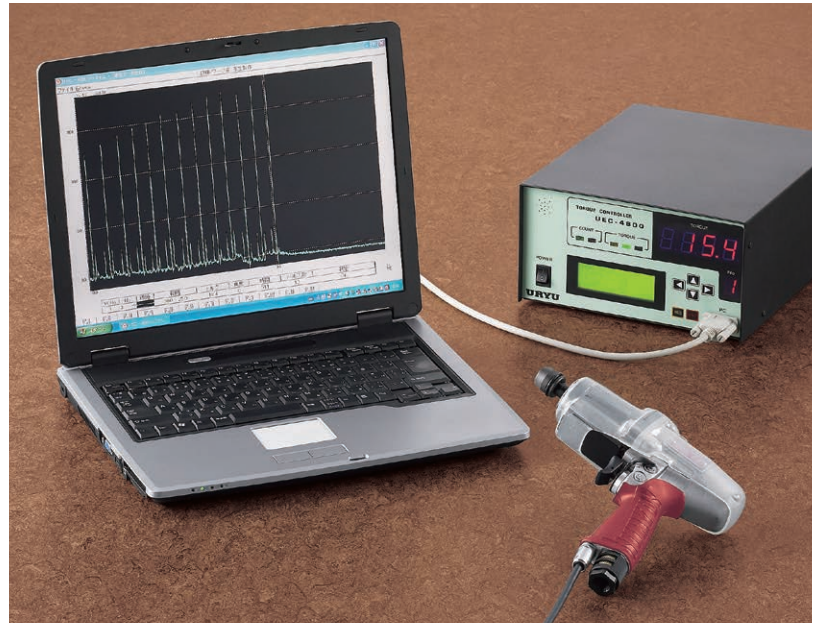
Features

- 1) LCD type front panel is economical.
- 2) Programming is easy on front LCD panel.
You can upload your programme from PC.

Functions

- 1) You can see 'Torque Wave' data on PC.
- 2) UEC-4800(SD) memorises max. 12,000 fastening data. When you connect UEC to PC, standard deviations, Cp value, Cpk value can be analysed instantly from the stored data within the controller and you can graph the statistical data.

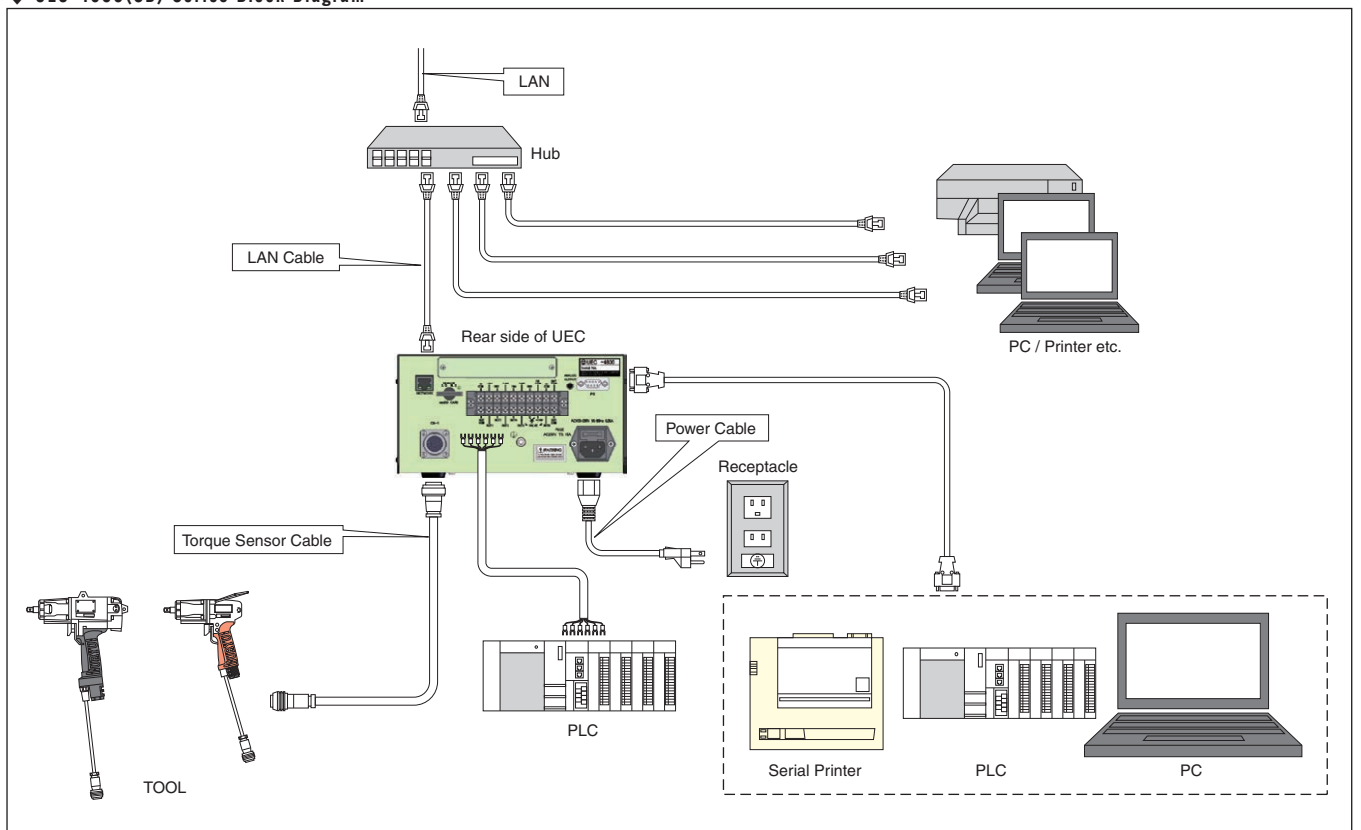
※ Other features and functions are the same as UEC-4800TP(SD)'s.



UEC-4800A/E(SD) SPECIFICATIONS

POWER SUPPLY	AC100~240V ±10%	DISPLAY	Torque Resolution ±2048 (12Bit A/D)
POWER FREQUENCY	50/60 Hz		LCD : 20 characters x 4 lines
NOISE PROTECTION	1000V 1μS (according to noise simulator)		Contents : WORK NO. / FASTENING COUNT
INSULATION PROTECTION	DC500V over 10MΩ		DOWN NO. / FASTENING TIME / PULSE NO.
AMBIENT TEMPERATURE	0~50°C (non-freezing)	LED	1-digit digital display (DPM) : WORK NO.
AMBIENT HUMIDITY	Under 90%RH (no dew)		4-digit digital display (DPM) : TORQUE
POWER CONSUMPTION	Approx. 30VA	INPUT TERMINAL SIGNAL	COUNT Lamp : OK (Green) / NOK (Red)
WEIGHT	Approx. 3.6 kg		TORQUE Lamp : LOW (Yellow) / OK (Green) / HIGH (RED)
DIMENSIONS	265(D) x 222(W) x 120(H)	OUTPUT TERMINAL SIGNAL	Operation Voltage/Current : DC24V/aprox. 10mA
MAIN FUNCTIONS	Torque Monitoring / Control + Fastening Counter		6 terminals (free format), VALVE
PARAMETER SETUP	Manual Input on Front LCD Panel	OUTPUT TERMINAL SIGNAL	Contact Capacity : AC:125V, 0.3A, DC:30V, 1A
	Personal Computer (with setup software)		6 terminals (free format), VALVE

◆ UEC-4800(SD) Series Block Diagram



SUPER "INTELEC" SYSTEM UEC-5500 SERIES CONTROLLER

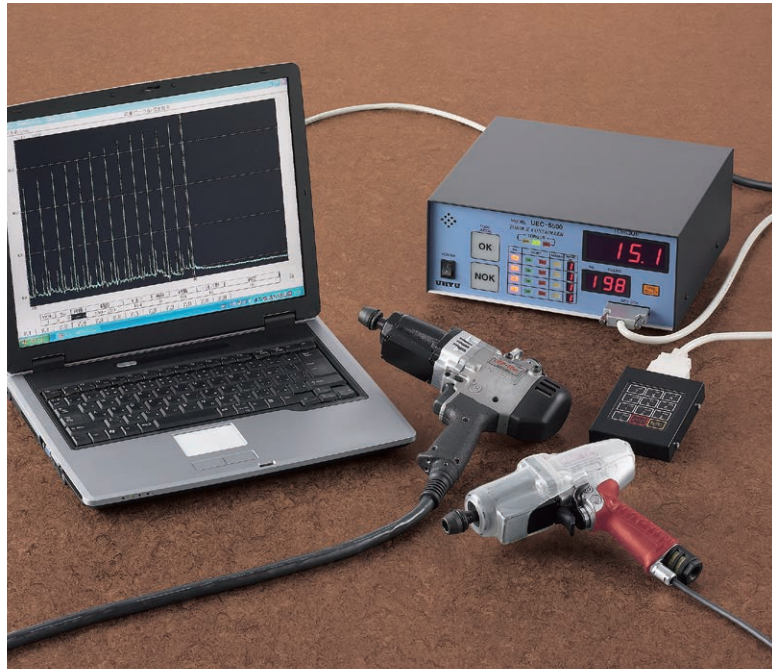
It is not easy to select the most suitable tool to meet with International Standards or customer's demand in the fastening process. UEC-5500 series is a multi-function controller which complies with various fastening conditions by controlling a transducerized tool very accurately. Ethernet (TCP / IP) is standardized to meet the needs of the times.

Features

- 1) UEC-5500 can control max. 4 different transducerized tools simultaneously.
- 2) UEC-5500 can be used with various types of transducerized tools.
 - a. Oil-Pulse Tools fitted with a brushless type Magnetostrictive Transducer UL-MC Series, ALPHA-MC Series, UEP-MC Series (UEPD Driver is required separately.)
 - b. Oil-Pulse Tools fitted with a Strain-Gauged Transducer U-EC Series, UX-EC Series
 - c. Pneumatic Tools fitted with a Strain-Gauged Transducer UAN-M Series and UOW-M Series
- 3) High Reliable Torque Control & Monitor
- 4) Easy Programming with a Removable Key Pad You can also upload the fastening programmes from PC.
- 5) Ethernet (TCP / IP) capable.

Functions

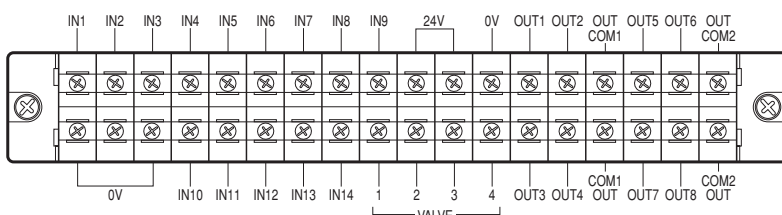
- 1) You can choose between Torque Control and Monitor. You can detect various errors and control the job with fastening counter.
- 2) You can see 'Torque Wave Data' on PC.
- 3) UEC-5500 can be used for 8 different fastening applications.
- 4) Front panel, PC display or buzzer will tell you Input / Output (terminal blocks / tool wiring) checks and errors.
- 5) UEC-5500 memorizes cumulative fastening numbers and pulse numbers from the start of operation.
- 6) UEC-5500 memorizes max. 20,000 fastening data per spindle. By connecting to PC, standard deviations, Cp value, Cpk value can be analyzed instantly from the stored data within the controller and you can graph the statistical data.
- 7) By using Input / Output terminals UEC-5500 can be interlocked with the production line.



UEC-5500A/E SPECIFICATIONS

POWER SUPPLY	AC100~240V ±10%
POWER FREQUENCY	50 / 60 Hz
NOISE PROTECTION	1000V 1μS (according to noise simulator)
INSULATION PROTECTION	DC500V over 10MΩ
AMBIENT TEMPERATURE	0~50°C (non-freezing)
AMBIENT HUMIDITY	Under 90%RH (no dew)
POWER CONSUMPTION	Approx. 50VA
WEIGHT	Approx. 3.6 kg
DIMENSIONS	240(D) x 270(W) x 115(H)
MAIN FUNCTIONS	Torque Monitoring / Control + Fastening Counter
PARAMETER SETUP	Removable Key Pad Personal Computer (with setup software)
DISPLAY	Torque Resolution ±2048 (12Bit A/D)
	4-digit digital display : TORQUE
	2-digit digital display : FASTENING COUNT DOWN NO.
	1-digit digital display (small) x 4 : WORK NO.
LED	1-digit digital display (large) x 4 : SPINDLE NO.
	Each Spindle's COUNT Lamp : OK (Green) / NOK (Red) TORQUE Lamp : LOW (Yellow) / OK (Green) / HIGH (RED)
INPUT TERMINAL SIGNAL	Drive by Electric Current Input (Photo Coupler Insulation) Voltage : DC24V Insulation Resistance : 4.7KΩ
OUTPUT TERMINAL SIGNAL	Contact Capacity : AC:125V, 0.3A, DC:30V, 1A 8 terminals (free format), VALVE, +24V

Input / Output Terminals



IN : Input Terminals
 OUT : Output Terminals
 24V : 24V valve output
 OUT COM1 : Common for output terminals (OUT1~4)
 OUT COM2 : Common for output terminals (OUT5~8)
 0V : 0V for Input terminals (common for all input terminals)
 VALVE1~VALVE4 : Valve output for each spindle

Key Pad (910-208-0) and Key Pad Cable (910-206-0) are optional items.

SUPER "INTELEC" SYSTEM UDP-MC TOOLS



Controller for UDP-MC tools is UECP-4800. It is an exclusive controller for UDP-MC so cannot be connected to other MC / EC tools.

Functions

- 1) Motor Setting
 - Motor current can be set in 4 steps.
 - Motor rotational speed can be set in 100 rpm increments (By the 2-step fastening, torque spike at bolt seating is inhibited, and make it possible to cover the wider torque range.)
- 2) The functions of various fastening error detections and fastener number count down assure your operations.
- 3) Makes setup or changeover of fastening torque and fastening number count.
- 4) Tool's maintenance is possible by counting both total cycle numbers(how many fasteners) and/or total pulse numbers.
- 5) Input/Output check and error messages can be checked from your PC screen or the front panel of UECP-4800 with buzzer sounding.
- 6) Can set up and monitor various control values and setting values either on the front panel or on your PC screen.
- 7) Ethernet(TCP/IP) capable. Upload and receipt of the setting values, upload of the fastening result /waveform data through PC software.

Features

- 1) **Power Supply:** UDP tool is driven by commercial electricity. This helps you build an assembly line easily and adjust it flexibly to the layout change.
- 2) **Light Weight:** The housing is made from plastic and designed to be light and rugged, based on the cultivated experience in pneumatic tool.
- 3) **Motor:** High Power and High efficiency adopted by IPM motor.
- 4) **Automatic ventilation system:** Cooling fan is activated automatically when pulling the throttle trigger, which contribute to heat reduction and increase number of fastening.
- 5) **Pulse unit:** Uryu know-how acquired from the pneumatic oil-pulse tool development, and newly developed Auto Relief Function is adopted.
- 6) **Safety:** The intelligence of UDP-MC tool stops operation immediately to protect the operator from the failure including overloaded operation, short circuit, and broken wire, which minimizes the possible influence over operator and shop floor.



UECP-4800 SPECIFICATIONS

POWER SUPPLY	AC100~240V ±10%
POWER FREQUENCY	50 / 60 Hz
NOISE PROTECTION	1000V 1μS (according to noise simulator)
INSULATION PROTECTION	DC500V over 10MΩ
AMBIENT TEMPERATURE	0~50°C (non-freezing)
AMBIENT HUMIDITY	90% RH or less (no dew)
WEIGHT	11.30 kg
DIMENSIONS	265(D) x 222(W) x 200(H)
MAIN FUNCTIONS	Torque control, Torque monitor Fastener number count
PARAMETER SETUP	Manual input on front LCD panel By PC (with exclusive URYU setup software)
DISPLAY	Torque resolution ±2048 (12 bit by A/D use)
	LCD type LCD (20 letters x 4 lines)
	Work number, Bolt count number, Tightening time and Pulse blow number 1-digit Digital Display (DPM) Work number displayed 4-digit Digital Display (DPM) Torque reading displayed
LED	Total Lamp (for Count Judgment) : OK (green) / NOK (red)
	Torque Lamp (for Torque Judgment) : LOW (yellow) / OK(green) / HIGH(red)
INPUT TERMINAL SIGNAL	Operation Voltage/Current : DC24V / about 10mA 6 terminals available (programmable) Note: Contact input necessary
OUTPUT TERMINAL SIGNAL	Contact Capacity : DC30V, 1A 6 terminals available (programmable), VALVE

Features, functions and terminal block are the same as UEC-4800(SD), so refer to page 26 and 27 for more understanding.

Electric Oil-Pulse Tool UDP-MC Series

Model	Capacity (Nominal Bolt Size)		Torque Range		Free Speed (Approx.)	Overall Length (about)		Weight less Socket or Bit (about)		From Center to Outside (about)		Sq. Drive or Hex. Size	
	mm	in	Nm	ft-lbs	rpm	mm	in	kg	lb	mm	in	mm	in
UDP-A60MC	6-8	1/4 -5/16	5-25	3.7-18.5	4800	214	8 27/64	1.53	3.37	29.5	1 5/32	9.5	3/8
UDP-A60LMC	5-6	NO.10-1/4	4-20	3.0-14.8	4800	214	8 27/64	1.53	3.37	29.5	1 5/32	9.5	3/8
UDP-A80MC	8-12	5/16-1/2	25-55	18.5-40.5	4800	242	9 33/64	1.78	3.92	29.5	1 5/32	9.5	3/8