Honeywell

Hour Meters Line Guide

Universal Application. Singular Performance. You'll find Honeywell Sensing and Control (S&C) hour meters where quality, performance and rugged construction are needed. So track and record elapsed time more effectively and efficiently, whether in hours or tenths of hours. Log running time of your equipment, designed to assure proper maintenance of expensive machines or systems, or track warranty programs. Often eliminate the guesswork with elapsed hours for better machine resale value, or logging actual time on your rental products.

Hour meters differ by power, display, shape and data. And while there are many factors to consider — from panel profile, to analog or LCD, shock and vibration resistance to noiseless performance — Honeywell S&C is your one-stop shop. No matter the terminal specification, the shape or configuration, we're up-to-the-minute on hour meter technology and applications.

FEATURES

AC/DC HOUR METERS
LM Series.

Features: Accuracy: ±200 ppm/hour • Backlight and large 7 mm display • Digital, microcontrol unit LCD • Durable design of mounting assembly • IP67 environmental sealing • Customizable

Benefits: LM Series microcontroller unit LCD hour meters are sealed digital instruments to monitor and record elapsed running time. The large 7 mm display eases readability and offers backlight options and a running indicator.
The hour meter also features a long reset time to offer customers the protection against malfunction of reset. Shock and vibration resistance allow for use in a wide variety of tough transportation applications including agricultural vehicles, blowers, engines, heavy-duty construction vehicles, heavy-duty trucks, mterial-handling equipment, and mowers.

AC HOUR METERS
20000 Series.

Features: Polycarbonate, shock resistant, tamper-proof case • Totally sealed • Single phase, synchronous, permanently lubricated motor • Custom logo dials, screw terminal, wire lead or 1/4 in blade terminals, special wire lengths

Benefits: From testing purposes to leasing applications, maintenance and warranty programs, this often accurate, reliable hour meter passes 100% function and timing accuracy tests before shipping. All parts are in process inspected and benefit from an uncommon design — integrating the motor and frame into one substructure.

28100 Series.

Features: Unlike conventional hour meters, this hour meter operates over a full range of voltages and frequencies. Working accurately over a voltage range of 90 Vac to 264 Vac and frequencies of either 50 Hz or 60 Hz, it fits a wide range of applications, anywhere in the world. It offers reduced parts count and inventories. With fewer purchase orders and reduced service parts, the meter often eliminates production line errors.

Benefits: Records time 0 to 99,999.9 hours • Accuracy ±0.02 % • UL recognized • CSA (UL) • CE mark • Totally sealed from dirt and moisture • Termination - 1/4 in spade • Options include custom lens and terminal orientation (up, down, straight)

301 Series.

Features: Offering enhanced accuracy and quiet operation in an economical design. The display reads to 1/100 of an hour for greater resolution. Available in standard case configurations that can interchange with virtually all meters on the market.

Benefits: Often ideal for multiple applications: medical, office equipment, electric panels, tanning beds, fans, and furnaces

continued on back page

Hour Meters Line Guide

Possibilities. That's the most powerful part.
Honeywell Sensing and Control (S&C) offers gold-standard parts, as well as one-stop convenience for engineering excellence — meaning top-notch products or completely customized creations, as well as all the possibilities that lie between. You may have 'impossible' needs and deadlines, but the experts at Honeywell are ready with powerful hour meter options.

From the factory floor to the assembly line, from packaging machinery to construction equipment — from the smallest spaces to any worldwide application or mount, Honeywell delivers enhanced reliability and performance in compact, cost-effective packages.

ac/dc Hour Meters	LM Series
Hours	0 to 99,999.9
Sealing	IP67
Voltage range/frequency	9 V to 64 V dc/ac (50 Hz to 500 Hz)
Accuracy	±200 ppm/hour
Termination	1/4 in blades; 3/16 in blades
Approvals	UL, CE
Mount/panel cutout opening	diamond and diamond (no bezel): 24,13 mm x 44,45 mm [0.95 in H x 1.75 in W] standard: 24,13 mm x 36,83 mm [0.95 in H x 1.45 in W] round: Ø 50,8 mm [Ø 2.00 in] rectangle: 22,35 mm x 44,96 mm [0.88 in H x 1.77 in W]
Operating temperature	-40 °C to 85 °C [-40 °F to 185 °F]
Number size	7 mm
Case material	makroblend

ac Hour Meters	20000 Series	28100 Series	301 Series
Counting range	records up to 99,999.9 hours with automatic roll over to zero	0 to 99,999.9 hours with automatic roll over to zero	0 to 99,999.90 hours
Sealing	IP65	IP66 front (IP40 rear)	IP40 front (IP00 terminals)
Voltage range/frequency	24 Vac, 120 Vac, 240 Vac/50 Hz, 60 Hz	90 Vac to 264 Vac/50 Hz, 60 Hz	120 Vac, 240 Vac/50 Hz, 60 Hz
Accuracy	±0.02 %	±0.02 %	±0.02 %
Termination	screw, 7 in lead wires	1/4 in spade	1/4 in spade
Approvals	UL, CSA, CE	UL, CSA, CE	UL, CE
Mount/panel cutout opening	2-screw, rectangular and square: 1.45 in x 0.95 in round: 2.0 in	2-screw and rectangular: 1.45 in x 0.95 in round: 2.0 in dia.	2-screw and rectangular: 1.45 in x 0.95 in
Operating temperature	-54 °C to 68 °C [-65 °F to 154 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	-25 °C to 70 °C [-13 °F to 158 °F]
Number size	3 mm [0.12 in]	3 mm [0.12 in]	4 mm [0.16 in]
Case material	polycarbonate	polycarbonate	polycarbonate

dc Hour Meters

	98000 Series and Volt Hour Meters	85000 Series	82400 Series
Counting range	display: 0 to 99,999.9 hours counter: 0 to 999,999	10,000 hour version standard, with automatic recycle to zero	0 to 9999.9; 0 to 99,999.9 (optional)
Sealing	IP66	IP66	IP66
Voltage range	4.5 Vdc to 16 Vdc; 9 Vdc to 64 Vdc; > 64 Vdc (consult factory)	5 Vdc to 110 Vdc	10 Vdc to 80 Vdc (polarity insensitive)
Accuracy	±0.02 %	±0.02 %	±0.02 %
Termination	1/4 in blade; 3/16 in blade (optional)	1/4 in male blade, #8-32 stud, Deutsch, Packard terminals	1/4 in spade
Approvals	UL	UL, CSA	–
Mount/panel cutout opening	2-screw, retainer: 1.45 in x 0.95 in. round: 2.0 in dia.	2-screw, stirrup: 1.45 in x 0.95 in round, flush, 3-screw: 2.0 in	2-screw and rectangular: 1.45 in x 0.95 in 3-screw and round: 2.0 in dia.
Operating temperature	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]	40 °C to 85 °C [-40 °F to 185 °F]
Number size	6 mm [0.24 in]	3 mm [0.12 in]	3 mm [0.12 in]
Case material	polycarbonate	polyester	polycarbonate

DC HOUR METERS

98000 Series LCD Hour Meters.

Features: Totally sealed from moisture and dirt • Direct replacement for current hour meter • No battery backup needed • Fits in existing panel openings • Custom bezels and dial artwork available •Snap-in retainer mount combines easy installation with rugged design • Compact depth • Rugged design • Pulse counter option • Reset option • Run indicator is standard

Benefits: Combines reliability with a solid-state package, built for rugged, heavy-duty applications. Large LCD display, with shorter overall meter depth, totally silent operation, non-volatile memory and solid-state circuitry. Wide variety of mounting styles for virtually any application.

98000 Series Volt Hour Meters.

Benefits: The LCD volt/hour meter monitors the condition of battery electrical systems while simultaneously measuring the total elapsed run time of equipment. During operation, cycles the displays between voltage and hours indication at a rate of fifteen seconds on for voltage and one second on for total hours. High-impact case sealed against dust and moisture.

85000 Series.

Features: Custom CMOS integrated circuit • Indicates operating time in hours and tenths, plus has a running indicator • Totally sealed • Battery system voltages: 6, 12, 24, 36, 48, 60, 72 and 80 Vdc • UL recognized (File number AU1774) • CSA certified (File number LR42455-12)

Benefits: Highly reliable drive mechanism; odometer gear train and accurate quartz crystal timing provides enhanced performance. UL/CSA recognized, with a variety of mounting styles. An improved odometer gear train, plus snap-together integrated chassis fits into a shock proof, totally sealed case often resistant to many acids and solvents. All parts are in-process inspected, and every meter must pass 100% function, burn-in, and timing accuracy test before shipping.

82400 Series.

Features: Non-polarity sensitive design reduces installation time and possibility of reverse polarity harness assembly • Standard case sizes and mounting for universal fit to most panel openings • Ultrasonic welded lens prevents moisture and dust intrusion • Terminals sealed to prevent moisture and dust intrusion • Can run off of many types of alternators so meter is only operating when vehicle is running (user must test for compatibility to their alternator output) • IP66 rated

Benefits: Perfect for aftermarket and service replacements, as well as cleaning equipment, compressors, generators, lawn and garden, mining, sports vehicles and more.

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

For more information about Sensing and Control products, visit www.honeywell.com/sensing or call +1-815-235-6847 or 1-800-537-6945, email inquiries to info.sc@honeywell.com

⚠ WARNING

PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

⚠ WARNING

MISUSE OF DOCUMENTATION

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

Sensing and Control
Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422 USA
sensing.honeywell.com

Honeywell

009573-2-EN IL50 GLO
March 2013
Copyright © 2013 Honeywell International Inc. All rights reserved.

OCEAN CHIPS
Океан Электроники
Поставка электронных компонентов

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения **«JONHON»**, а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов **«FORSTAR»**.

AVIC JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).

FORSTAR®

Телефон: 8 (812) 309-75-97 (многоканальный)
Факс: 8 (812) 320-03-32
Электронная почта: ocean@oceanchips.ru
Web: http://oceanchips.ru/
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А