## HAMYOUNG NUX

dpstar Group

## 

Great visibility in bright & dark environments from every direction

## LCD COUNTER/TIMERS

## LCseries



Website: www.dpstar.com.my

# LCA (48 x 48 mm) LCA (98 x 48 mm)

#### Main Features

- Improved visibility with the wide viewing angle LCD
- Pre-scale setting range expanded (from 0.00001 to 999999)
- Modbus communication function added (RS485)
- Batch counter and batch timer setting functions improved
- Offset function for counter and timer
- Twin timer can be operated also in 1-stage output model
- OUT1 and OUT2 simultaneous output operation during twin timer operation in 2-stage output model
- Down-timer function added when timer SADD operation is set

### Specification

### Appearance ### Ap	Model		del	LC6	LC4	LC3	LC7
Power susply voltage	Appearance			Minound rate?  Description of the second sec	NOCORCIANT LCA 123456 NO 3 PAST	BIO CMP  OI CO CMP  TIM  (2) CS RST MO  (2) CS RST MO  (3) CS RST MO  (4) CS RST MO  (5) CS RST MO  (6) CS RST MO  (7) CS RST MO  (8) CS RST MO  (8) CS RST MO  (9) CS RST MO  (1) CS RST MO  (1) CS RST MO  (1) CS RST MO  (2) CS RST MO  (3) CS RST MO  (4) CS RST MO  (5) CS RST MO  (6) CS RST MO  (7) CS RST MO  (8) CS RST MO  (8) CS RST MO  (9) CS RST MO  (1) CS RST MO  (1) CS RST MO  (1) CS RST MO  (2) CS RST MO  (3) CS RST MO  (4) CS RST MO  (5) CS RST MO  (6) CS RST MO  (7) CS RST MO  (8) CS RST MO  (8) CS RST MO  (9) CS RST MO  (1) CS RST MO  (2) CS RST MO  (3) CS RST MO  (4) CS RST MO  (5) CS RST MO  (6) CS RST MO  (6) CS RST MO  (7) CS RST MO  (7) CS RST MO  (8) CS RST	HAMPOURS RED SEA REST
Power consumption		W×H×	D(mm)	72 X 36 X 84	48 X 48 X 80	96 X 48 X 71	72 X 72 X 93
Character height   Counting unit (10.5 m), setting unit (6.7 m)   Setting unit (10.5 m), setting unit (6.7 m)   Setting unit (6.7 m)   Setting unit (1.8 m)							
Counting unit (10,5 mm)   Setting unit (14,6 mm)   Setting unit (14,5 mm)   Setting unit (14,5 mm)   Setting unit (14,5 mm)   Setting unit (14,5 mm)   Setting unit (12,5	Power consumption			• 2-stage setting: 12 VA max. • 1-stage setting: 11 VA max.			
Power outage compensation	Character height				setting unit (8 mm) 4 digit : counting unit (14 mm),	And the second control of the second control	
*Selection of input method by external switch (voltage input) *Counter: composed of CP1, CP2, RESET, BATCH-RESET *Tirent: composed of STAPT, INHIBIT, RESET * Voltage input: HIGH level (6 – 30 V d.c.), LOW level (0 – 2 V d.c.), input resistance (about 4,5 49) *Non-voltage input: impedance during short-circuit (1 k2 max.), residual voltage during short-circuit (1 k2 max.) residual voltage during short-circuit (1 k2 max.) residual voltage during short-circuit (1 k2 max.) residual voltage during short-circuit (2 V d.c. max.)  Min. input signal time  External power supply  ONE SHOT output  ONE SHOT output  ONE SHOT output  ONE SHOT output  OUT (SPST, 1a)  OUT (SPST, 1a)  OUT (SPST, 1a)  OUT (SPST, 1c)  OUT (SPST,	Max. counting speed			1 CPS / 30 CPS / 1 KCPS / 10 KCPS			
Timer   Composed of START, INHIBIT, RESET   Voltage input : HiGH level (6 – 3 V d.c.), imput resistance (about 4.5 kg)	Power outage compensation			10 years (using non-volatile memory)			
External power supply	Input			• Timer: composed of START, INHIBIT, RESET • Voltage input: HIGH level (5 - 30 V d.c.), LOW level (0 - 2 V d.c.), input resistance (about 4.5 kΩ)			
ONE SHOT output	Min. input signal time			1 ms / 20 ms (START, INHIBIT, RESET input)			
Total	External power supply			12 V d.c. 100 mA max			
Control   Capacity   Capacity   SPDT: NC (250 V a.c. 5A), NO (250 V a.c. 2A) - SPST: 250 V a.c. 5A, resistive load	(	ONE SHO					
Control output   Capacity   SPDT: NC (250 V a.c. 5A), NO (250 V a.c. 2A) * SPST: 250 V a.c. 5A, resistive load		contact					
1-stage setting	output		2-stage setting				
START BIT   STOP BIT   DATA BIT   PARITY BIT   DATA BIT   PARITY BIT   DATA BIT   DAT							
Contact   2-stage setting		non-					
Timer operation error Power start-in: ±0.01 % ±0.05 sec. max., Reset start-in: ±0.01 % ±0.03 sec. max.    protocol							
Protocol method   RS485 (2-wire half-duplex)							
method  RS485 (2-wire half-duplex)  Asynchronous  Speed  2,400 / 4,800 / 9,600 / 19,200 / 38,400 bps  effective distance  max. number of connections response waiting time  START BIT  STOP BIT  DATA BIT  PARITY BIT  Insulation resistance  Dielectric strength  Noise Immunity  Square-wave noise by noise simulator (1 № pulse every 16 ms) ±2 № (among power terminals)  Vibration resistance  Relay Life  Expectancy  Robe to the distance (2,400 / 4,800 / 9,600 / 19,200 / 38,400 bps  Within 800 m max  31 (address:1 ~ 127)  1 bit (fixed)  5 ~ 99 ms  1 bit (fixed)  5 ~ 99 ms  8 bit  None / Odd / Even  None / Odd / Even  Insulation resistance  100 № min. (500 V d.c.) conductive part terminal – unfilled metal  2,000 V a.c. 60 Hz for 1 min (different live part terminals)  Vibration resistance  Relay Life  Expectancy  Rechanical  Protection rating  Storage temperature  -20 ~ 65 °C		Company of the Compan		The transfer of the transfer o			
Synchronization  Speed  2,400 / 4,800 / 9,600 / 19,200 / 38,400 bps  effective distance  max. number of connections response waiting time  START BIT  STOP BIT  DATA BIT  PARITY BIT  Insulation resistance  Dielectric strength  Noise Immunity  Square-wave noise by noise simulator (1 μS pulse every 16 mS) ±2 kV (among power terminals)  Vibration resistance  Relay Life  Expectancy  Protection rating  Storage temperature  Storage temperature  Asynchronous  Within 800 m max  31 (address:1 ~ 127)  To bit (fixed)  S bit  None / Odd / Even  Insulation resistance  100 MQ min. (500 V d.c.) conductive part terminal – unfilled metal  2,000 V a.c. 60 Hz for 1 min (different live part terminals)  Noise Immunity  Square-wave noise by noise simulator (1 μS pulse every 16 mS) ±2 kV (among power terminals), ±500 V (among input terminals)  Vibration resistance  10 – 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  Relay Life  Expectancy  Relay Life  Foredection rating  Protection rating  Incompany terminals  10,000,000 times min.  Protection rating  Storage temperature							
speed 2,400 / 4,800 / 9,600 / 19,200 / 38,400 bps  effective distance Within 800 m max  max. number of connections response waiting time 5 ~ 99 ms  START BIT 1 bit (fixed)  STOP BIT 1 bit (fixed)  DATA BIT 8 bit  PARITY BIT None / Odd / Even  Insulation resistance 100 M\(\text{None}\) v d.c.) conductive part terminal – unfilled metal  Dielectric strength 2,000 V a.c. 60 Hz for 1 min (different live part terminals)  Noise Immunity Square-wave noise by noise simulator (1 \(\text{IS}\) pulse every 16 ms) ±2 kV (among power terminals), ±500 V (among input terminals)  Vibration resistance 10 .55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  Relay Life Expectancy mechanical 10,000,000 times min.  Protection rating 1P65 (product front)  Storage temperature -20 ~ 65 °C	in H			2.7 AC 2010 AN ACCURATION OF THE PROPERTY OF T			
effective distance  max. number of connections  response waiting time  START BIT  STOP BIT  DATA BIT  PARITY BIT  Insulation resistance  Dielectric strength  Noise Immunity  Vibration resistance  Relay Life Expectancy  Protection rating  Protection rating  Storage temperature  Within 800 m max  31 (address:1 ~ 127)  52 (99 ms)  53 (Address:1 ~ 127)  54 (fixed)  55 (bit (fixed)  56 (product front)  1 (fixed)  8 bit  PARITY BIT  None / Odd / Even  1 (different live part terminals)  1 (address:1 ~ 127)  1 (bit (fixed)  1 (fixed)  8 bit  PARITY BIT  None / Odd / Even  1 (different live part terminals)  1 (address:1 ~ 127)  1 (fixed)  8 bit  Pone / Odd / Even  1 (address:1 ~ 127)  1 (fixed)  8 bit  Pone / Odd / Even  1 (address:1 ~ 127)  1 (fixed)  8 bit  Pone / Odd / Even  1 (address:1 ~ 127)  1 (fixed)  8 bit  Pone / Odd / Even  1 (address:1 ~ 127)  1 (fixed)  8 bit  Pone / Odd / Even  1 (address:1 ~ 127)  1 (fixed)  8 bit  Pone / Odd / Even  1 (address:1 ~ 127)  1 (fixed)  8 bit  Pone / Odd / Even  1 (address:1 ~ 127)  1 (fixed)  8 bit  Pone / Odd / Even  1 (address:1 ~ 127)  1 (fixed)  1 (fixed)  2 (fixed)  1 (fixed)  2 (fixed)  1 (fixed)  2 (fixed)  1 (fixed)  2 (fixed)  2 (fixed)  1 (fixed)  2 (fixed)  1 (fixed)  2 (fixed)  3 (fixed)  4 (fixed)  5 (fixed)  5 (fixed)  5 (fixed)  6 (fixed)							
response waiting time  START BIT  STOP BIT  DATA BIT  PARITY BIT  Insulation resistance  Dielectric strength  Noise Immunity  Vibration resistance  Relay Life Expectancy  Reconnections  response waiting time  5 ~ 99 ms  5 TART BIT  1 bit (fixed)  8 bit  None / Odd / Even  100 № min. (500 V d.c.) conductive part terminal – unfilled metal  2,000 V a.c. 60 Hz for 1 min (different live part terminals)  Square-wave noise by noise simulator (1 ⋈ pulse every 16 ms) ±2 W (among power terminals), ±500 V (among input terminals)  Vibration resistance  10 - 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  Relay Life Expectancy  mechanical  Protection rating  IP65 (product front)  Storage temperature  -20 ~ 65 °C							
response waiting time  START BIT  STOP BIT  DATA BIT  PARITY BIT  Insulation resistance  Dielectric strength  Noise Immunity  Square-wave noise by noise simulator (1   Relay Life Expectancy  Relay Life Expectancy  Protection rating  Storage temperature  START BIT  1 bit (fixed)  1 bit (fixe							
START BIT  STOP BIT  DATA BIT  DATA BIT  PARITY BIT  Insulation resistance  Insulation resi							
STOP BIT  DATA BIT  B bit  PARITY BIT  Insulation resistance  Insulation resistance  Dielectric strength  Noise Immunity  Square—wave noise by noise simulator (1 /s pulse every 16 ms) ±2 kV (among power terminals)  Vibration resistance  Relay Life Expectancy  Rechanical  Protection rating  Storage temperature  1 bit (fixed)  Noise (fixed)  8 bit  None / Odd / Even  None / Odd / Even  None / Odd / Even  100 MQ min. (500 V d.c.) conductive part terminal – unfilled metal  2,000 V a.c. 60 Hz for 1 min (different live part terminals)  10 - 55 Hz, single every 16 ms) ±2 kV (among power terminals), ±500 V (among input terminals)  10 - 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  10,000,000 times min.  10,000,000 times min.  Protection rating  Protection rating  Storage temperature							
DATA BIT PARITY BIT None / Odd / Even  Insulation resistance  100 № min. (500 V d.c.) conductive part terminal – unfilled metal  Dielectric strength 2,000 V a.c. 60 Hz for 1 min (different live part terminals)  Noise Immunity Square-wave noise by noise simulator (1 № pulse every 16 №) ±2 № (among power terminals), ±500 V (among input terminals)  Vibration resistance  10 - 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  Relay Life Expectancy Reclay Life Expectancy Protection rating  10,000,000 times min.							
PARITY BIT    None / Odd / Even		200 9000 9000 9000 90					
Insulation resistance  100 MQ min. (500 V d.c.) conductive part terminal – unfilled metal  2,000 V a.c. 60 Hz for 1 min (different live part terminals)  Noise Immunity  Square-wave noise by noise simulator (1 //s pulse every 16 ms) ±2 kV (among power terminals), ±500 V (among input terminals)  Vibration resistance  10 - 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  Relay Life electrical 50,000 times min.  Expectancy mechanical 10,000,000 times min.  Protection rating  Storage temperature  100 MQ min. (500 V d.c.) conductive part terminal – unfilled metal 2,000 V (among input terminals)  10 - 55 Hz single amplitude 0.5 mm, 3-axis each direction, 2 h  10 - 55 Hz single amplitude 0.5 mm, 3-axis each direction, 2 h  10 - 65 °C							
Dielectric strength  2,000 V a.c. 60 Hz for 1 min (different live part terminals)  Noise Immunity  Square-wave noise by noise simulator (1 \( \mu \)S pulse every 16 \( \mu \)S) \( \pm \) (among power terminals), \( \pm \)500 V (among input terminals)  Vibration resistance  10 - 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  Relay Life   electrical   50,000 times min.  Expectancy   mechanical   10,000,000 times min.  Protection rating   IP65 (product front)    Storage temperature   -20 ~ 65 °C							
Noise Immunity  Square-wave noise by noise simulator (1 \( \mu \) pulse every 16 \( ms \) \( \pm \) (among power terminals), \( \pm \) (among input terminals)  Vibration resistance  10 - 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  Relay Life Expectancy  mechanical  Protection rating  Storage temperature  Square-wave noise by noise simulator (1 \( \mu \) pulse every 16 \( ms \) \( \pm \) \( \pm \) (among power terminals), \( \pm \) 500 V (among input terminals)  10 - 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 h  10,000,000 times min.	The same of the sa						
Vibration resistance10 - 55 Hz, single amplitude 0.5 mm, 3-axis each direction, 2 hRelay Life Expectancyelectrical50,000 times min.mechanical10,000,000 times min.Protection ratingIP65 (product front)Storage temperature-20 ~ 65 ℃							
Relay Life Expectancyelectrical mechanical50,000 times min.Protection rating10,000,000 times min.Storage temperature10,000,000 times min.Protection rating10,000,000 times min.10,000,000 times min.10,000,000 times min.10,000,000 times min.10,000,000 times min.10,000,000 times min.10,000,000 times min.							
Expectancymechanical $10,000,000 \text{ times min.}$ Protection ratingIP65 (product front)Storage temperature $-20 \sim 65 \degree C$							
Protection rating  Storage temperature  IP65 (product front)  -20 ~ 65 ℃		-					
Storage temperature -20 ~ 65 ℃		Protectio		IP65 (product front)			
Ambient temperature & humidity -10 ~ 55 ℃, 35 ~ 85 % RH (without condensation)	-			-20 ~ 65 °C			
	Ambien	t tempera	ture & humidity	-10 ~ 55 ℃, 35 ~ 85 % RH (without condensation)			