User Registers & Common Special Relay/Register

Presented by Tee

Director&Founder
Sensornode IoT Technology

Catalog

Device list

Device list (LX3 Series)

Registers

No.	Device	Descriptions
1	X - Input	Representation of physical inputs to PLC;
2	Y - Output	Representation of physical outputs from PLC;
3	M - Intermediate	Common intermediate register; System special register;
4	S - State	PLC internal states flag for step control;
5	T - Timer	16-bit timer (1, 10 and 100ms)
6	C - Counter	16-bit and 32-bit up/down counter; High speed counter;
7	D – Data register	Data register; String register; Indirect addressing address;
8	P, I - Pointer	Jump pointer; Sub-program pointer; Interrupt pointer (high speed,);
9	K, H - Constant	Binary, decimal, hexadecimal, floating point, etc.

Device list (LX3 Series)

Other devices

Classification	Type	Device name	Sign	Range	Number
System devices	Bit	Special	SM	0 to 4095	Decimal number
	Word	Special register	SD	0 to 4095	Decimal number
Index registers	Word	Index register	[D]	0 to 7999	Decimal number
	Word	Index register	V	0 to 7	Decimal number
	Double word	Long index register	Z	0 to 7	Decimal number
Nested	Bit	Nested	N	0 to 7	Decimal number
Pointer	-	Pointer	P	0 to 4095	Decimal number
Constant	-	Decimal constant	K	-	Decimal number
	-	Hexadecimal constant	H	-	Hexadecimal number
	Single precision floating point	Real constant	E	-	-

User registers

User registers

Input / Output

- **Input relay (X)**

Input relay (X) supports NPN &PNP wiring

The relay signal is identified by Signs such as X0, X1,......X7, X10, X11...... and its serial number is numbered in octal.

- **Output relay (Y)**

Output relay (Y) only supports NPN wiring

The relay signal is identified by Signs such as Y0, Y1,...Y7, Y10, Y11...... and its serial number is numbered in octal.

User registers

Internal relay (M) / Status relay (S)

■ Internal relay (M)

The auxiliary relay M element is used as an intermediate variable in the execution of the user program

The auxiliary relay M is identified by Signs such as M0, M1........, M7999, and its serial number is numbered in decimal system.

■ Status relay (S)

The state relay S is used for the design and execution of the step program.

Devices numbered in: Decimal, i.e. S0 to S9, S10 to S19

User registers

Timer(LX3 Series)

PLC	100ms 0.1– 3276.7s	100ms 0.1 – 3276.7s 0.01–327.67s	10ms 0.01-327.67s	Retentive 1ms 0.001-32.767s	Retentive 100ms 0.1–3276.7s
LX3V (1S Firmware)	32 (T0 – T31)	31 (T32 – T62)	31 (T32 – T62)	1 (T63)	
LX3V (2N Firmware)	200 (T0 – T199) Sub-program 8 (T192–T199)	-	46 (T200 – T245)	Interrupted 4 (T246 – T249)	6 (T250 – T255)
LX3VP	200 (T0 – T199) Sub-program 8 (T192–T199)	-	46 (T200 – T245)	Interrupted 4 (T246 – T249)	6 (T250 – T255)
LX3VE	200 (T0 – T199) Sub-program 8 (T192–T199)	-	46 (T200 – T245)	Interrupted 4 (T246 – T249)	6 (T250 – T255)

User registers

Counter(LX3 Series)

PLC	16bit UP Counters 0 – 32,767		32bit Bi-directional Counters -2,147,483,648 - +2,147483647	
	General	Latched	General	Latched
LX1S	16 (C0 – C15) ※3	16 (C16 – C31) ※3	-	-
LX2N	100 (C0-C99) ※1	100(C100 – C199) ※2	20 (C200 – C219) ※1	15 (C220 – C234) ※2
LX3V	100 (C0-C99) ※1	100(C100 – C199) ※2	20 (C200 – C219) ※1	15 (C220 – C234) ※2

※1, Non-latched area, it could be changed to latched area by parameter setting.

※2, Latched area, it could be changed to non-latched area by parameter setting.

※3, The non-latched or latched feature couldn't be changed.

System registers

System registers

System-specific relays (M8000~M8255)(LX3 Series)

•Using contacts of special relays, coils are driven automatically by the PLC. Only the contacts of these coils may be used by a user defined program.
Examples:
- M8000: RUN monitor (ON during run);
- M8002: Initial pulse (Turned ON momentarily when PLC starts);
- M8012: 100 msec clock pulse;

•Driving coils of special auxiliary relays, a PLC executes a predetermined specific operation when these coils are driven by the user.
  Examples:
- M8033: All output statuses are retained when PLC operation is stopped;
- M8034: All outputs are disabled;
- M8039: The PLC operates under constant scould mode;

For details, please refer to **System-special address**

System registers

System-specific register (D8000 ~ D8255)(LX3 Series)

System-special data register (D8000 ~ D8255) are used for controlling and monitoring a variety of work methods and components in PLC, such as battery voltage, scould time, and is the state of action and so on. The default value will be written into those registers while PLC power on.
For example:

Register	Description
D8013	Seconds data for use with an RTC (0-59)
	Minute data for use with an RTC (0-59)
D8015	Hour data for use with an RTC (0-23)
D8016	Day data for use with an RTC (1-31)
D8017	Month data for use with an RTC (1-12)
D8018	Year data for use with an RTC (2000-2099)
D8019	Weekday data for use with an RTC (0-6)

For details, please refer to **System-special address**
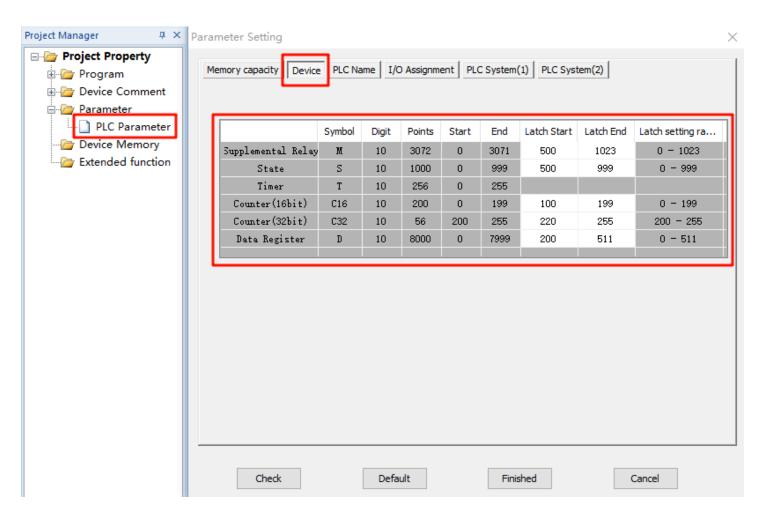
Power-down Retention setting

Power-down retention setting

■ LX3 Series

The data in device will be retained while switch PLC state. The latched device range could be modified by parameters.

Thank you