

TDOG-31 (CO/LCO) RS-485 Protocol Address Mapping Data

1. Read Input Resistors (Function code 04) : [Read Measurement Value](#)

Code	Address	Parameter	Bytes	R/W	Unit / Analysis	Data
04	30001-2	1st Current A (R)	4	Read	[x 1A]	Long
	30003-4	1st Current B (S)	4	Read	[x 1A]	Long
	30005-6	1st Current C (T)	4	Read	[x 1A]	Long
	30007-8	1st Current N	4	Read	[x A]	Long
	30009	2nd Current A (R)	2	Read	[x 0.01A]	Unsigned
	30010	2nd Current B (S)	2	Read	[x 0.01A]	Unsigned
	30011	2nd Current C (T)	2	Read	[x 0.01A]	Unsigned
	30012	2nd Current N	2	Read	[x 0.01A]	Unsigned
	30013	Lamp Status	2	Read	Bit	Unsigned
	30014	Fault Status	2	Read	Bit	Unsigned
	30015	System Status	2	Read	Bit	Unsigned

[Unit Analysis]

30013 Lamp Status	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PICK-UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
COMM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
A (R)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
B (S)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
C (T)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
N	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
INST	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
30014 Fault Status	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PICK-UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
COMM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
A (R)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
B (S)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
C (T)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
N	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
INST	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
30015 System Status	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
System Run	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
System Error	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

2. Read Holding Resistors (Function code 03) : [Read Setting Value](#)

Preset Single Resistor / Multiple Resistors (Function code 06 / 16) : [Write Setting Value](#)

Code	Address	Parameter	Bytes	R/W	Unit / Analysis	Data
03 06 / 16	40001	Frequency set	2	R/W	0=50Hz / 1=60Hz	Unsigned
	40002	CT Ratio set	2	R/W	[x 1A]	Unsigned
	40003	Pulse out set	2	R/W	[x 1ms]	Unused
	40004	TOC set	2	R/W	[x 0.1A]	Unsigned
	40005	TOC Lock set	2	R/W	0=No / 1=Yes	Unsigned
	40006	TOC Lever set	2	R/W	[x 0.1]	Unsigned
	40007	TOC Curve set	2	R/W	0=DT / 1=NI / 2=VI / 3=EI	Unsigned
	40008	IOC set	2	R/W	[x 1A]	Unsigned
	40009	IOC Lock set	2	R/W	0=No / 1=Yes	Unsigned
	40010	TOCG set	2	R/W	[x 0.1A]	Unsigned
	40011	TOCG Lock set	2	R/W	0=No / 1=Yes	Unsigned
	40012	TOCG Lever set	2	R/W	[x 0.1]	Unsigned
	40013	TOCG Curve set	2	R/W	0=DT / 1=NI / 2=VI / 3=EI	Unsigned
	40014	IOCG set	2	R/W	[x 1A]	Unsigned
	40015	IOCG Lock set	2	R/W	0=No / 1=Yes	Unsigned

3. Read Holding Registers (Function code 03) : Read Fault Value * Start Address : 40016

Code	Address	Parameter	Bytes	R/W	Unit / Analysis	Data
03	40016	Sum of Fault	2	Read	ea [1st byte]	Unsigned
		Recent Fault Record			Address [2nd byte] ^{*Note1}	

[Unit Analysis]

40016 Bit	[1st byte] Sum of Fault								[2nd byte] Recent Fault Record ^{*Note1}								40016 Bit
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
1ea	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1st Fault (40017~022)
2ea	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2nd Fault (40023~028)
3ea	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	3rd Fault (40029~034)
4ea	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	4th Fault (40035~040)
:	:								:								:
:	:								:								:
30ea	0	0	0	1	1	1	1	0	0	0	0	1	1	1	0	1	30th Fault (40191~196)
31ea	0	0	0	1	1	1	1	1	0	0	0	1	1	1	1	0	31th Fault (40197~202)
32ea	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	32th Fault (40203~208)

Code	Address	Parameter	Bytes	R/W	Unit / Analysis	Data	
03	40017	1st Operating Relay	2	Read	Bit	Unsigned	
	40018	1st Operating Phase	2	Read	Bit	Unsigned	
	40019	1st Operating Current	2	Read	[x 0.01A]	Unsigned	
	40020	1st Operating Time	2	Read	Cycle ^{*Note2}	Unsigned	
	40023	2nd Operating Relay	2	Read	Bit	Unsigned	
	40024	2nd Operating Phase	2	Read	Bit	Unsigned	
	40025	2nd Operating Current	2	Read	[x 0.01A]	Unsigned	
	40026	2nd Operating Time	2	Read	Cycle ^{*Note2}	Unsigned	
	40029~032	3rd Fault Data	12	Read		Unsigned	
	40035~038	4th Fault Data	12	Read		Unsigned	
	:	:			Read		Unsigned
	:	:					
	40191~194	30th Fault Data	12	Read		Unsigned	
	40197~200	31st Fault Data	12	Read		Unsigned	
	40203~206	32nd Fault Data	12	Read		Unsigned	
	40211	1st Fault Time		2	Read	year	Unsigned
	40212			2	Read	month	Unsigned
	40213			2	Read	day	Unsigned
	40214			2	Read	hour	Unsigned
	40215			2	Read	minute	Unsigned
40216			2	Read	second	Unsigned	
40217~222	2nd Fault Time	6	Read	yy/mm/dd/ hh:mm:ss	Unsigned		
40223~228	3rd Fault Time	6	Read	yy/mm/dd/ hh:mm:ss	Unsigned		
40229~234	4th Fault Time	6	Read	yy/mm/dd/ hh:mm:ss	Unsigned		
:	:			Read		Unsigned	
:	:						
40385~390	30th Fault Time	6	Read	yy/mm/dd/ hh:mm:ss	Unsigned		
40391~396	31st Fault Time	6	Read	yy/mm/dd/ hh:mm:ss	Unsigned		
40397~402	32nd Fault Time	6	Read	yy/mm/dd/ hh:mm:ss	Unsigned		

[Unit Analysis]

40017 / 40023 / ... Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
TOC	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
IOC	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
40018 / 40024 / ... Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
N	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

4. Force Single Coil (Function code 05) : [Write Remote Command](#)

Code	Address	Parameter	Bytes	R/W	Unit / Analysis	Data
05	X0001	Clear Fault Record	2	Write	1=Clear	Unsigned

5. MODBUS Exception Responses

- Exception Response

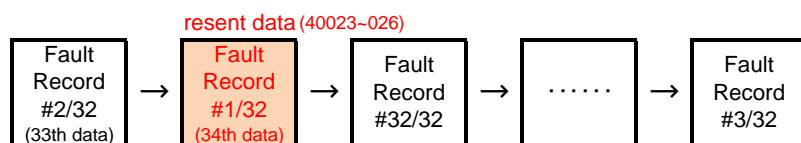
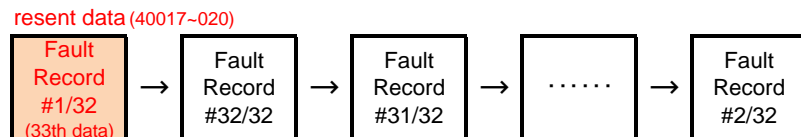
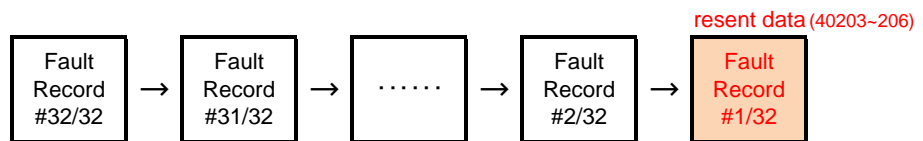
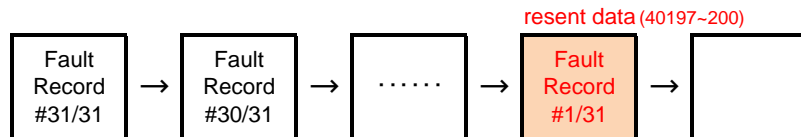
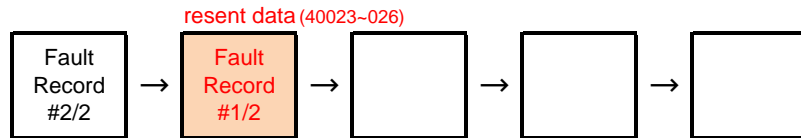
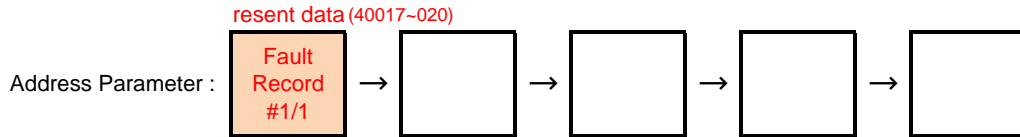
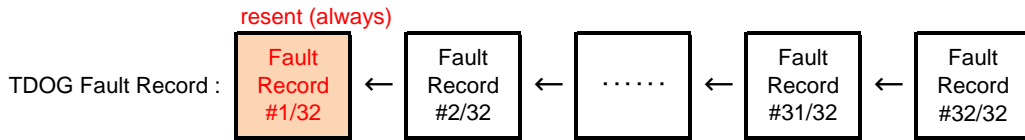
Slave Address	Function Code	Exception Code	CRC
0x□□	0x□□	0x□□	----
1 Byte	1 Byte	1 Byte	2 Bytes

- Exception Codes

Code	Name
01	Illegal Function
02	Illegal Data Address
03	Illegal Data Value
02	Time-out

※ Note 1

- Recent Fault of Address 40016 is according to circle round method.



※ Note 2 : Raise fractions not lower than 0.5 to a unit.

- If operating time is 30ms Cycle = operating time / Period = operating time * frequency = 0.03 * 60 = 1.8 [Display 2 cycle](#)