

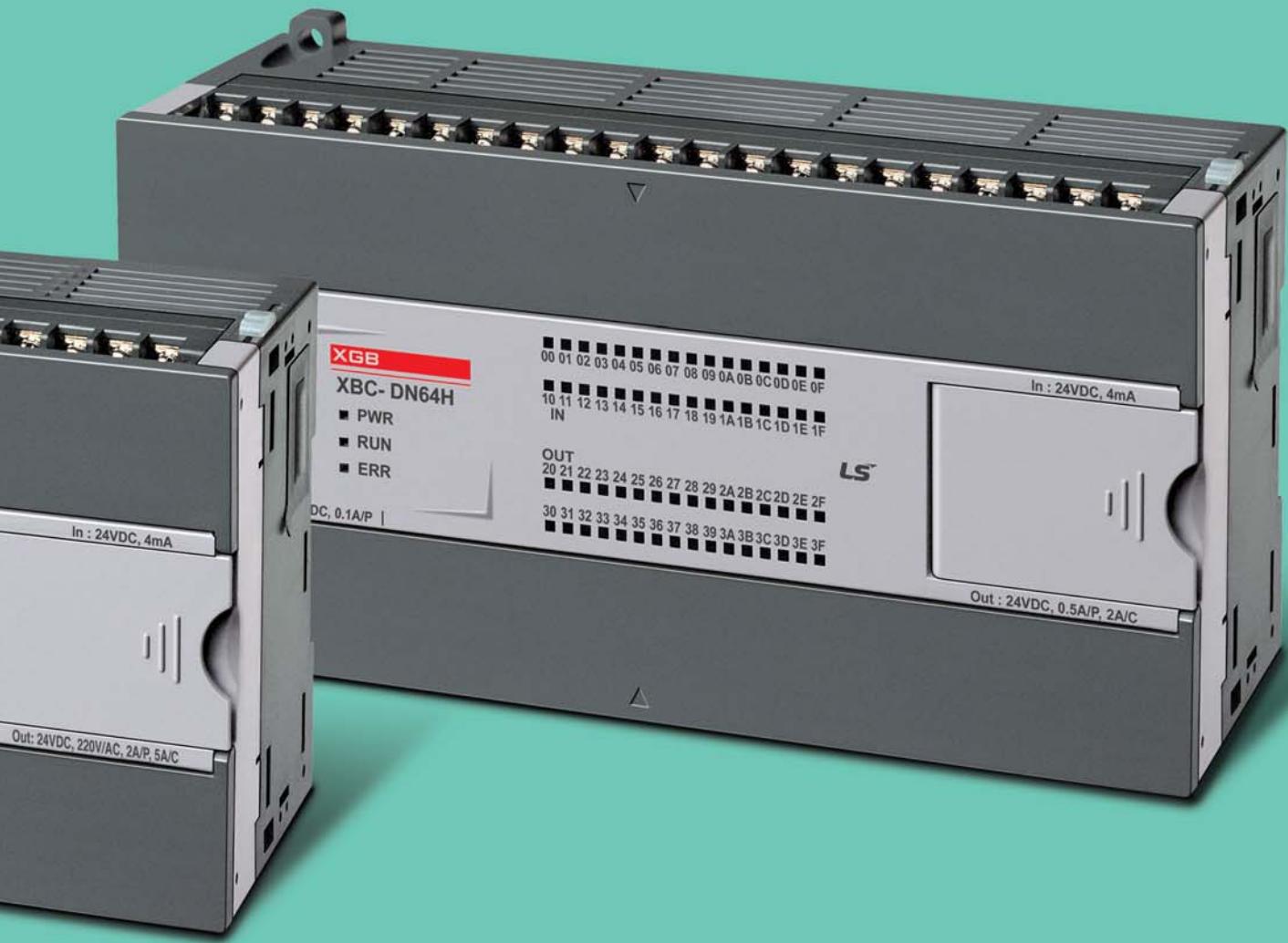
# XBC/XEC H

High Performance

## Contents

Performance specifications	26
Wiring	27





## High performance type

### Performance specifications

Item	XBC/XEC-DR32H XBC-DR32H/DC <sup>*1</sup> XEC-DR32H/DI	XBC/XEC-DN32H XEC-DP32H <sup>*1</sup> XBC-DN32H/DC	XBC/XEC-DR64H XBC-DR64H/DC <sup>*1</sup> XEC-DR64H/DI	XBC/XEC-DN64H XEC-DP64H <sup>*1</sup> XBC-DN64H/DC		
<b>Control method</b>	Repetitive, cyclic, interrupt, constant scan					
<b>I/O control method</b>	Refresh mode (Batch processing by scan synchronization), Direct mode by instruction					
<b>Programming language</b>	Ladder diagram or IEC standard (LD, SFC, ST) <sup>*1</sup>					
<b>Processing speed</b>	83 ns / Step					
<b>Program capacity</b>	15Kstep (IEC type: 200KB)					
<b>Main unit I/O points</b>	32 (Input:16, Output:16)	32 (Input:16, Output:16)	64 (Input: 32, Output: 32)	64 (Input: 32, Output: 32)		
<b>Max. I/O points (Main + Expansion 10 stages)</b>	352 points		384 points			
<b>Total program</b>	128					
<b>Operation mode</b>	RUN, STOP, DEBUG					
<b>Self diagnosis</b>	Detects errors of scan time, memory error, I/O error, battery error, power error, etc.					
<b>Program port</b>	USB (Rev 1.1), RS-232C 1 channel (Loader)					
<b>Retain data at power failure</b>	Latch area setting at basic parameter					
<b>Built-in functions</b>	RS-232C / RS-485(2 ch), Pulse catch, Input filter, External interrupt, PID control, High-speed counter, Positioning, RTC					
<b>Data memory</b>						
<b>XBC</b>		<b>XECA (IEC type)</b>				
P	P0000 ~ P1023F (16,384 points)	Symbolic variable	A	32KB (Max. 16KB retain setting available)		
M	M0000 ~ M1023F (16,384 points)	Input variable	I	2KB (%IX 15.15.63)		
K	K0000 ~ K4095F (65,536 points)	Output variable	Q	2KB (%QX 15.15.63)		
L	L0000 ~ L2047F (32,768 points)	Direct variable	M	16KB (Max. 8KB retain setting available)		
F	F0000 ~ F1023F (16,384 points)		R	20KB (1 block)		
T	100ms, 10ms, 1ms: T0000 ~ T1023 (1,024)(Adjustable by parameter setting)		W	20KB		
C	C0000 ~ C1023 (1,024)		F	2KB		
S	S00.00 ~ S127.99	Flag variable	K	8KB		
D	D0000 ~ D10239 (10,240 word)		L	4KB		
U	U00.00 ~ U0A.31 (Analog data refresh area: 352 word)		N	10KB		
Z	Z000 ~ Z127 (128 word)		U	1KB		
N	N000 ~ N5119 (5,120 word)	Flash area	R	20KB (2 blocks)		

\*1) XEC is IEC standard language programming.

# Wiring | XBC/XEC H input/output wiring

XBC/XEC-DN(R)32H  
XBC/XEC-DN/DR/DP32H

Input wiring  
(sink/source type)

Circuit configuration		No.	Contact	No.	Contact	Type																																																																										
<p>Terminal block no.</p>	TB2	485+	TB1	RX	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>⊕</td><td></td><td></td></tr> <tr><td>RX</td><td></td><td>TB1</td></tr> <tr><td>TB2</td><td>485+</td><td>TX</td></tr> <tr><td>TB3</td><td></td><td></td></tr> <tr><td>TB4</td><td>485-</td><td>SG</td></tr> <tr><td>TB5</td><td></td><td>TB5</td></tr> <tr><td>TB6</td><td>00</td><td>01</td></tr> <tr><td>TB7</td><td>02</td><td>TB7</td></tr> <tr><td>TB8</td><td>04</td><td>03</td></tr> <tr><td>TB9</td><td>05</td><td>TB9</td></tr> <tr><td>TB10</td><td>06</td><td>06</td></tr> <tr><td>TB11</td><td>07</td><td>TB1</td></tr> <tr><td>TB12</td><td>08</td><td>08</td></tr> <tr><td>TB13</td><td>09</td><td>TB1</td></tr> <tr><td>TB14</td><td>0A</td><td>0A</td></tr> <tr><td>TB15</td><td>0B</td><td>TB1</td></tr> <tr><td>TB16</td><td>0C</td><td>0C</td></tr> <tr><td>TB17</td><td>0D</td><td>TB1</td></tr> <tr><td>TB18</td><td>0E</td><td>0E</td></tr> <tr><td>TB19</td><td>0F</td><td>TB1</td></tr> <tr><td>TB20</td><td>COM</td><td>24G</td></tr> <tr><td>TB21</td><td></td><td>TB2</td></tr> <tr><td>TB22</td><td>24V</td><td>24V</td></tr> <tr><td>TB23</td><td></td><td>⊕</td></tr> <tr><td>TB24</td><td>24G</td><td></td></tr> </table>	⊕			RX		TB1	TB2	485+	TX	TB3			TB4	485-	SG	TB5		TB5	TB6	00	01	TB7	02	TB7	TB8	04	03	TB9	05	TB9	TB10	06	06	TB11	07	TB1	TB12	08	08	TB13	09	TB1	TB14	0A	0A	TB15	0B	TB1	TB16	0C	0C	TB17	0D	TB1	TB18	0E	0E	TB19	0F	TB1	TB20	COM	24G	TB21		TB2	TB22	24V	24V	TB23		⊕	TB24	24G	
⊕																																																																																
RX		TB1																																																																														
TB2	485+	TX																																																																														
TB3																																																																																
TB4	485-	SG																																																																														
TB5		TB5																																																																														
TB6	00	01																																																																														
TB7	02	TB7																																																																														
TB8	04	03																																																																														
TB9	05	TB9																																																																														
TB10	06	06																																																																														
TB11	07	TB1																																																																														
TB12	08	08																																																																														
TB13	09	TB1																																																																														
TB14	0A	0A																																																																														
TB15	0B	TB1																																																																														
TB16	0C	0C																																																																														
TB17	0D	TB1																																																																														
TB18	0E	0E																																																																														
TB19	0F	TB1																																																																														
TB20	COM	24G																																																																														
TB21		TB2																																																																														
TB22	24V	24V																																																																														
TB23		⊕																																																																														
TB24	24G																																																																															
TB3	485-	TB2																																																																														
TB4	00	TB3																																																																														
TB5	01	TB4																																																																														
TB6	02	TB5																																																																														
TB7	03	TB6																																																																														
TB8	04	TB7																																																																														
TB9	05	TB8																																																																														
TB10	06	TB9																																																																														
TB11	07	TB10																																																																														
TB12	08	TB11																																																																														
TB13	09	TB12																																																																														
TB14	0A	TB13																																																																														
TB15	0B	TB14																																																																														
TB16	0C	TB15																																																																														
TB17	0D	TB16																																																																														
TB18	0E	TB17																																																																														
TB19	0F	TB18																																																																														
TB20	COM	TB19																																																																														
TB21	24G	TB20																																																																														
TB22	24V	TB21																																																																														
TB23		TB22																																																																														
TB24	24G	TB23																																																																														

XBC/XEC-DR32H  
Relay output wiring type

Circuit configuration		No.	Contact	No.	Contact	Type																																																																										
<p>Terminal block no.</p>	TB2	PE	TB1	Power	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>⊕</td><td></td><td></td></tr> <tr><td>PE</td><td>AC100-240V</td><td>TB1</td></tr> <tr><td>TB2</td><td></td><td>TB3</td></tr> <tr><td>TB3</td><td>NC</td><td>20</td></tr> <tr><td>TB4</td><td></td><td>TB5</td></tr> <tr><td>TB5</td><td>21</td><td>21</td></tr> <tr><td>TB6</td><td></td><td>TB7</td></tr> <tr><td>TB7</td><td>22</td><td>22</td></tr> <tr><td>TB8</td><td></td><td>TB9</td></tr> <tr><td>TB9</td><td>COM0</td><td>COM0</td></tr> <tr><td>TB10</td><td></td><td>TB11</td></tr> <tr><td>TB11</td><td>24</td><td>24</td></tr> <tr><td>TB12</td><td></td><td>TB12</td></tr> <tr><td>TB13</td><td>26</td><td>25</td></tr> <tr><td>TB14</td><td></td><td>TB13</td></tr> <tr><td>TB15</td><td>27</td><td>27</td></tr> <tr><td>TB16</td><td></td><td>TB14</td></tr> <tr><td>TB17</td><td>28</td><td>28</td></tr> <tr><td>TB18</td><td></td><td>TB15</td></tr> <tr><td>TB19</td><td>29</td><td>29</td></tr> <tr><td>TB20</td><td></td><td>TB16</td></tr> <tr><td>TB21</td><td>2C</td><td>2A</td></tr> <tr><td>TB22</td><td></td><td>TB17</td></tr> <tr><td>TB23</td><td>2E</td><td>2B</td></tr> <tr><td>TB24</td><td>COM3</td><td>COM2</td></tr> </table>	⊕			PE	AC100-240V	TB1	TB2		TB3	TB3	NC	20	TB4		TB5	TB5	21	21	TB6		TB7	TB7	22	22	TB8		TB9	TB9	COM0	COM0	TB10		TB11	TB11	24	24	TB12		TB12	TB13	26	25	TB14		TB13	TB15	27	27	TB16		TB14	TB17	28	28	TB18		TB15	TB19	29	29	TB20		TB16	TB21	2C	2A	TB22		TB17	TB23	2E	2B	TB24	COM3	COM2
⊕																																																																																
PE	AC100-240V	TB1																																																																														
TB2		TB3																																																																														
TB3	NC	20																																																																														
TB4		TB5																																																																														
TB5	21	21																																																																														
TB6		TB7																																																																														
TB7	22	22																																																																														
TB8		TB9																																																																														
TB9	COM0	COM0																																																																														
TB10		TB11																																																																														
TB11	24	24																																																																														
TB12		TB12																																																																														
TB13	26	25																																																																														
TB14		TB13																																																																														
TB15	27	27																																																																														
TB16		TB14																																																																														
TB17	28	28																																																																														
TB18		TB15																																																																														
TB19	29	29																																																																														
TB20		TB16																																																																														
TB21	2C	2A																																																																														
TB22		TB17																																																																														
TB23	2E	2B																																																																														
TB24	COM3	COM2																																																																														
TB3	NC	TB2																																																																														
TB4	21	TB3																																																																														
TB5	20	TB4																																																																														
TB6	22	TB5																																																																														
TB7	23	TB6																																																																														
TB8	24	TB7																																																																														
TB9	COM0	TB8																																																																														
TB10	25	TB9																																																																														
TB11	26	TB10																																																																														
TB12	27	TB11																																																																														
TB13	28	TB12																																																																														
TB14	29	TB13																																																																														
TB15	2A	TB14																																																																														
TB16	2B	TB15																																																																														
TB17	2C	TB16																																																																														
TB18	2D	TB17																																																																														
TB19	2E	TB18																																																																														
TB20	2F	TB19																																																																														
TB21	COM2	TB20																																																																														
TB22	COM3	TB21																																																																														
TB23	⊕	TB22																																																																														
TB24		TB23																																																																														

XBC/XEC-DN32H  
Transistor output wiring  
(sink type)

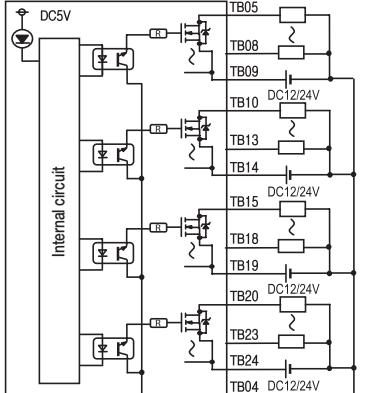
Circuit configuration		No.	Contact	No.	Contact	Type																																																																										
<p>Terminal block no.</p>	TB2	PE	TB1	Power	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>⊕</td><td></td><td></td></tr> <tr><td>PE</td><td>AC100-240V</td><td>TB1</td></tr> <tr><td>TB2</td><td>DC12/24V</td><td>TB3</td></tr> <tr><td>TB3</td><td>20</td><td>20</td></tr> <tr><td>TB4</td><td></td><td>TB5</td></tr> <tr><td>TB5</td><td>21</td><td>21</td></tr> <tr><td>TB6</td><td></td><td>TB7</td></tr> <tr><td>TB7</td><td>22</td><td>22</td></tr> <tr><td>TB8</td><td></td><td>TB9</td></tr> <tr><td>TB9</td><td>COM0</td><td>COM0</td></tr> <tr><td>TB10</td><td></td><td>TB11</td></tr> <tr><td>TB11</td><td>24</td><td>24</td></tr> <tr><td>TB12</td><td></td><td>TB12</td></tr> <tr><td>TB13</td><td>26</td><td>25</td></tr> <tr><td>TB14</td><td></td><td>TB13</td></tr> <tr><td>TB15</td><td>27</td><td>26</td></tr> <tr><td>TB16</td><td></td><td>TB14</td></tr> <tr><td>TB17</td><td>28</td><td>27</td></tr> <tr><td>TB18</td><td></td><td>TB15</td></tr> <tr><td>TB19</td><td>29</td><td>28</td></tr> <tr><td>TB20</td><td></td><td>TB16</td></tr> <tr><td>TB21</td><td>2C</td><td>2A</td></tr> <tr><td>TB22</td><td>2E</td><td>2B</td></tr> <tr><td>TB23</td><td>2F</td><td>2C</td></tr> <tr><td>TB24</td><td>COM3</td><td>COM2</td></tr> </table>	⊕			PE	AC100-240V	TB1	TB2	DC12/24V	TB3	TB3	20	20	TB4		TB5	TB5	21	21	TB6		TB7	TB7	22	22	TB8		TB9	TB9	COM0	COM0	TB10		TB11	TB11	24	24	TB12		TB12	TB13	26	25	TB14		TB13	TB15	27	26	TB16		TB14	TB17	28	27	TB18		TB15	TB19	29	28	TB20		TB16	TB21	2C	2A	TB22	2E	2B	TB23	2F	2C	TB24	COM3	COM2
⊕																																																																																
PE	AC100-240V	TB1																																																																														
TB2	DC12/24V	TB3																																																																														
TB3	20	20																																																																														
TB4		TB5																																																																														
TB5	21	21																																																																														
TB6		TB7																																																																														
TB7	22	22																																																																														
TB8		TB9																																																																														
TB9	COM0	COM0																																																																														
TB10		TB11																																																																														
TB11	24	24																																																																														
TB12		TB12																																																																														
TB13	26	25																																																																														
TB14		TB13																																																																														
TB15	27	26																																																																														
TB16		TB14																																																																														
TB17	28	27																																																																														
TB18		TB15																																																																														
TB19	29	28																																																																														
TB20		TB16																																																																														
TB21	2C	2A																																																																														
TB22	2E	2B																																																																														
TB23	2F	2C																																																																														
TB24	COM3	COM2																																																																														
TB3	DC12/24V	TB2																																																																														
TB4	21	TB3																																																																														
TB5	20	TB4																																																																														
TB6	22	TB5																																																																														
TB7	23	TB6																																																																														
TB8	24	TB7																																																																														
TB9	COM0	TB8																																																																														
TB10	25	TB9																																																																														
TB11	26	TB10																																																																														
TB12	27	TB11																																																																														
TB13	28	TB12																																																																														
TB14	29	TB13																																																																														
TB15	2A	TB14																																																																														
TB16	2B	TB15																																																																														
TB17	2C	TB16																																																																														
TB18	2D	TB17																																																																														
TB19	2E	TB18																																																																														
TB20	2F	TB19																																																																														
TB21	COM2	TB20																																																																														
TB22	COM3	TB21																																																																														
TB23	⊕	TB22																																																																														
TB24		TB23																																																																														

\* XBC input : P00~P1F, XEC input : I00~I31      \* XBC output : P21~P3F, XEC output : Q00~Q31

**XEC-DP32H**

Transistor output wiring  
(source type)

Circuit configuration		No.	Contact	No.	Contact	Type
		TB2	PE	TB1		
		TB4	DC12/24V	TB3	Power	
		TB6	21	TB5	20	
		TB8	23	TB7	22	
		TB10	24	TB9	COM0	
		TB12	26	TB11	25	
		TB14	COM1	TB13	27	
		TB16	29	TB15	28	
		TB18	28	TB17	2A	
		TB20	2C	TB19	COM2	
		TB22	2E	TB21	2D	
		TB24	COM3	TB23	2F	

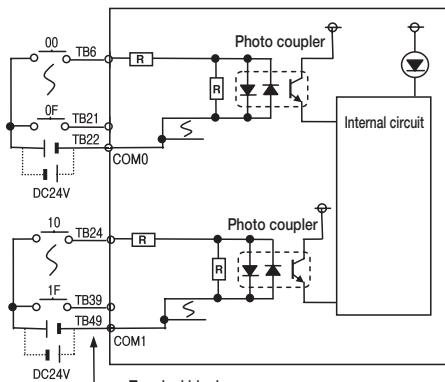


Internal circuit diagram for XEC-DP32H showing 8 parallel output paths. Each path consists of a diode, a resistor, and a transistor connected to a common collector output. The outputs are labeled TB05 through TB24. A ground connection is shown at the bottom.

**XBC-DN(R)64H****XEC-DN/DR/DP64H**

Input wiring  
(sink/source type)

Circuit configuration		No.	Contact	No.	Contact	Type
		TB2	485+	TB1	RX	
		TB4	485-	TB3	TX	
		TB6	00	TB5	SG	
		TB8	02	TB7	01	
		TB10	04	TB9	03	
		TB12	06	TB11	05	
		TB14	08	TB13	07	
		TB16	0A	TB15	09	
		TB18	0O	TB17	0B	
		TB20	OE	TB19	0D	
		TB22	COM0	TB21	0F	
		TB24	10	TB23	MC	
		TB26	12	TB25	11	
		TB28	14	TB27	13	
		TB30	16	TB29	15	
		TB32	18	TB31	17	
		TB34	1A	TB33	19	
		TB36	1C	TB35	1B	
		TB38	1E	TB37	1D	
		TB40	COM1	TB39	1F	
		TB42	24V	TB41	24G	

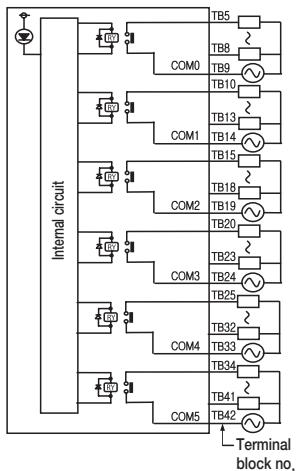


Internal circuit diagram for XBC-DN(R)64H showing two parallel input paths. Each path includes a photo coupler, a resistor, and a switch. The outputs are labeled TB21 through TB49. A ground connection is shown at the bottom.

**XBC-DR60H****XEC-DR64H**

Relay output wiring

Circuit configuration		No.	Contact	No.	Contact	Type
		TB2	PE	TB1	Power	
		TB4	NC	TB3		
		TB6	21	TB5	20	
		TB8	23	TB7	22	
		TB10	24	TB9	COM0	
		TB12	26	TB11	25	
		TB14	COM1	TB13	27	
		TB16	29	TB15	28	
		TB18	2B	TB17	2A	
		TB20	2C	TB19	COM2	
		TB22	2E	TB21	2D	
		TB24	COM2	TB23	2F	
		TB26	31	TB25	30	
		TB28	33	TB27	32	
		TB30	35	TB29	34	
		TB32	37	TB31	36	
		TB34	38	TB33	COM4	
		TB36	3A	TB35	39	
		TB38	3C	TB37	38	
		TB40	3E	TB39	3D	
		TB42	COM5	TB41	3F	



Internal circuit diagram for XBC-DR60H showing 8 parallel output paths. Each path consists of a diode, a resistor, and a relay coil. The outputs are labeled TB05 through TB42. A ground connection is shown at the bottom.

\* XBC input : P00~P1F, XEC input : I00~I31      \* XBC output : P21~P3F, XEC output : Q00~Q31