



## Using the HE500TIU100 with the Samsung Brain SPC10/100/300 PLCs

The Samsung Protocol gives the TIU Series access to read and write the various register types of the PLC.

All accesses are performed on word addresses as shown in the table below.

### Register Assignment

| Description             | ID  | Address       | Word Address |
|-------------------------|-----|---------------|--------------|
| External Inputs         | R   | 00000 – 00007 | 0            |
|                         |     | 00100 – 00107 | 1            |
|                         |     | 00200 – 00207 | 2            |
|                         |     | 00300 – 00307 | 3            |
| External Outputs        | R   | 01500 – 01505 | 15           |
|                         |     | 01600 – 01605 | 16           |
|                         |     | 01700 – 01705 | 17           |
|                         |     | 01800 – 01805 | 18           |
| Internal Relay          | M   | 00000 – 00015 | 0            |
|                         |     | 00100 – 00115 | 1            |
|                         |     | 00200 – 00215 | 2            |
|                         |     | 03100 – 03115 | 31           |
| Keep Relays             | K   | 00000 – 00015 | 0            |
|                         |     | 00100 – 00115 | 1            |
|                         |     | 00200 – 00215 | 2            |
|                         |     | 01500 – 01515 | 15           |
| Special Internal Relays | F   | 00000 – 00015 | 0            |
|                         |     | 00100 – 00115 | 1            |
| Timer                   | TIM | 000 – 255     | 0 – 255      |
| Counter                 | CNT | 000 – 255     | 0 – 255      |
| Status                  | SST | W2560 – W2738 | 2560 – 2738  |
| Word Register           | W   | 0000 – 0255   | 0 – 255      |

## Communication Parameter Configuration

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Care should be taken to match both ends of the link for baud rate. The default setting for the HE500TIU100 being 9600 baud with eight data bits, one stop bit and even parity. Connection is typically via two wire RS485 cabling.

### Node Address or PLC Inherent CPU Number.

The Inherent Number is specified in Status Register W2560.

In the SPC Series the inherent numbers must not be duplicated and the user can preset and freely use within the range 0 –191. If the inherent number 255 is selected , all PLC CPUs connected to the network are selected. This is useful if the inherent number of the PLC is not known but can ONLY be used when one unit is connected to the HE500TIU100.

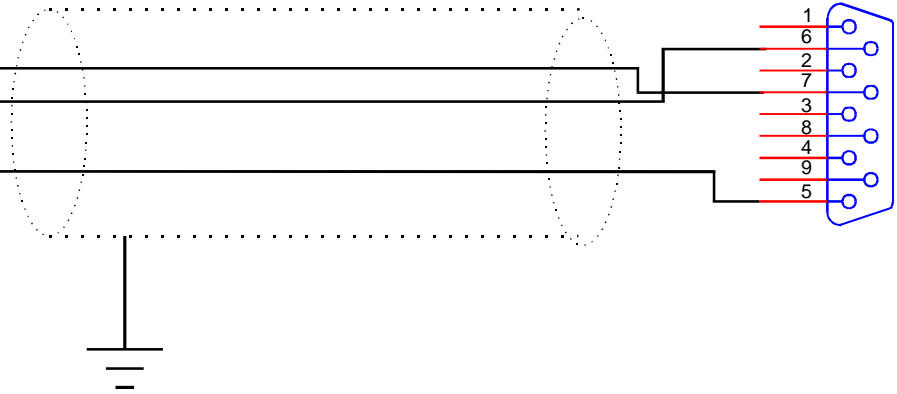
# Connecting a TIU to a Samsung SPC10/100/300

## TIU 100/110

|             |    |
|-------------|----|
| +5V         | 1  |
| TX 485/422+ | 2  |
| TX 485/422- | 3  |
| RX 485/422+ | 4  |
| RX 485/422- | 5  |
| TX RS232    | 6  |
| 0V (GND)    | 7  |
| RX RS232    | 8  |
| TX 20mA +   | 9  |
| TX 20mA-    | 10 |
| RX 20mA+    | 11 |
| RX 20mA-    | 12 |
| EARTH       | 13 |

RS485

9 Pin Male  
D type (Rear)

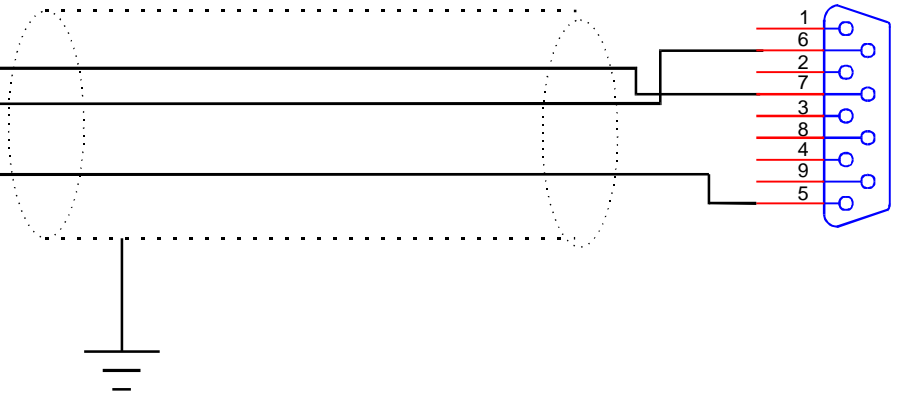


## TIU 50/101/102/111/112/20X

|             |   |
|-------------|---|
| TX 485/422+ | 1 |
| TX 485/422- | 2 |
| RX 485/422+ | 3 |
| RX 485/422- | 4 |
| TX RS232    | 5 |
| 0V (GND)    | 6 |
| RX RS232    | 7 |
| SHIELD      | 8 |

RS485

9 Pin Male  
D type (Rear)



### Configuration Bank

| Switch | ON                      | OFF            |
|--------|-------------------------|----------------|
| 1      | Pull-up                 | No Pull-up     |
| 2      | 120 termination         | No termination |
| 3      | Pull-down               | No Pull-down   |
| 4      | Reserved for future use |                |

NOTE: Switch 1 and 3 must be used together.

