Telephone: 01480 395256
www.i4automation.co.uk
sales@i4automation.co.uk

i4 Automation Ltd
Innovative Solutions for Industry

URB Remote IO configuration.

Unitronics URB remote IO can be used with the Samba, Vision & Unistream range of devices. Each module requires a 5V connection to power the logic and then field power for the connected IO. This application note mainly covers the configuration rules for transistor output modules where the 24VDC field power is supplied from the output module. This supply is limited so may require additional power supplies.

> This application note ONLY applies to 4, 8 or 16 channel modules, refer to the manual for 32 point cards.

> **For operating temperatures in excess of 50'C the current limits are HEAVILY derated – refer to the manual.**

Voltage requirements

The 5V logic power for the modules is supplied from the URB-TCP(2) adaptors and is unlikely to be exceeded unless 16 channel analogue inputs are used.

The 24V field power for relay modules is externally supplied so is not an issue, however, the field 24V for transistor output modules comes from the URB-TCP(2) adaptor. This current is limited to 10A (URB-TCP) or 8A (URB-TCP2) so must be considered carefully when configuring a system, note that the Unilogic Hardware Configuration DOES NOT validate the 24V requirement.

As an example one URD-0008CI output module, which can supply 10A of field power, would use all of the 24V supply available from a URB-TCP adaptor. In this configuration, if all 10A was required, it would be necessary to add a URP-PS24 power supply to power any additional 24V requirement.

Typical voltage requirements are shown in the table below for different types of modules.

	Digital inputs	Digital outputs relay	Digital outputs transistor	Analogue inputs	Analogue outputs	Encoder inputs	Pulse outputs	Load cell
5V	35/50ma	35	40ma	30/210ma	30ma	65ma	75ma	25ma
24V	0ma	120	4.8-10A	30ma	80/150ma	0ma	45ma	25ma

The adaptors and additional power supplies can provide the following current, the limit being the size of the internal tracking used to carry the current.

		URB-TCP	URB-TCP2	URP-PS24
5V	-40'C to 60'C	1.5A	1A	1A
24V	-40'C to 50'C	10A	8A	10A
	See manual for high temperature derating values			

Telephone: 01480 395256
www.i4automation.co.uk
sales@i4automation.co.uk

Address space requirements

The **URB-TCP** can be connected to a maximum of 63 modules depending on the address space they take up (also referred to as Input or Output image size). This address space can be used up very quickly when fitting analogue modules with a maximum of 6 off 16 channel analogue input cards completely filling the available input space and not allowing any further analogue OR digital inputs to be added.

The **URB-TCP2** can be connected to a maximum of 6 modules depending on the address space they takes up (also referred to as Input or Output image size). This address space can be used up very quickly when fitting analogue modules with a maximum of 4 off 16 channel analogue input cards completely filling the available input space and not allowing any further analogue OR digital inputs to be added.

To check that 5V and address space requirement are valid make sure you can configure the hardware in Unilogic.

Tony Spearing
June 2023