■ Bus current consumption

The GL20-RTU-ECT32 module supports up to 32 GL20 series expansion modules, including the GL20-PS2 relay power module. The actual number of expansion modules supported needs to be calculated according to the total bus current consumption.

When the number of expansion modules exceeds 16 or when the total bus current consumption of the expansion modules (*"1.6 Release Notes" on page 15*) exceeds the bus supply current of the GL20-RTU-ECT module, that is, 2 A, it is necessary to add an GL20-PS2 module to supply power to the expansion modules.

The formula for calculating the total bus current consumed by the expansion modules is as follows:

Total bus current consumed by the expansion modules = bus current consumed by expansion module #1 + bus current consumed by expansion module #2 + … + bus current consumed by expansion module #n

- When a GL20-PS2 module is not provided, it is required that the total bus current consumption of the expansion modules must not exceed 2 A, and the number of expansion modules must not exceed 16.
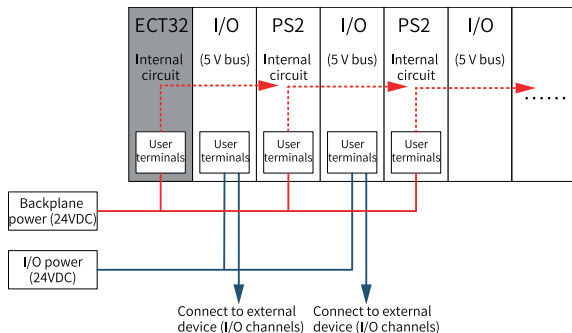
  For example, the GL20-RTU-ECT module can support up to 8 GL20-3232ETN-M modules each with a bus current consumption of 250 mA (2 A/250 mA=8), or up to 16 GL20-0008ETP modules each with a bus current consumption of 85 mA (16*85 mA=1360 mA≤2 A).

- When a GL20-PS2 module is provided because the total current consumption of the expansion modules that are directly powered by the GL20-RTU-ECT module exceeds 2 A or the number of expansion modules exceeds 16, the excessive expansion modules are powered by the GL20-PS2 module. The number of expansion modules supported by the GL20-PS2 module is determined based on the total bus current consumption of the expansion modules, similar to the above calculation method of the GL20-RTU-ECT module. It should be noted that if one GL20-PS2 module is provided, then its bus current consumption must be included in the total supply current of the GL20-RTU-ECT module. If multiple GL20-PS2 modules are provided, the bus current consumption of a certain GL20-PS2 module must be included in the total supply current of the immediately previous GL20-PS2 module.

  For example, given that 8 GL20-3232ETN-M modules or 16 GL20-0008ETP modules are already added to the GL20-RTU-ECT module. If you want to add more expansion modules, a GL20-PS2 module is required for additional power supply. In this case, you need to remove at least one GL20-3232ETN-M module or at least one GL20-0008ETP module to reserve the bus supply current margin of the GL20-RTU-ECT module to supply power to the GL20-PS2 module. The GL20-PS2 module consumes a bus current consumption of 60 mA and provides a bus current of 2 A.

  Here we take one GL20-RTU-ECT module (2 A power supply) + one GL20-PS2 (2 A power supply) + several GL20-3232ETN-M/GL20-0008ETP modules as an example, then at least 15 GL20-3232ETN-M modules (15*250 mA=3750 mA)/31 GL20-0008ETP modules (31*85 mA=2635 mA) can be supported .

The following figure shows the power supply diagram of the GL20-RTU-ECT32 module.

ECT32	I/O	PS2	I/O	PS2	I/O	
Internal circuit	(5 V bus)	Internal circuit	(5 V bus)	Internal circuit	(5 V bus)	......
User terminals	User terminals	User terminals	User terminals	User terminals		

Backplane power (24VDC)

I/O power (24VDC)

Connect to external device (I/O channels)　Connect to external device (I/O channels)

⚠ Caution

- The GL20-PS2 module and the GL20-RTU-ECT32 module must be powered on simultaneously (the GL20-PS2 module is allowed to be powered on at most two seconds later than the GL20-RTU-ECT32 module), otherwise addressing may fail.
- Do not place the GL20-PS2 module in the last slot of the configuration.