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<b>Category</b>	■FAQ □SOP	<b>Related OS</b>	N/A
<b>Abstract</b>	How Much Voltage or Current Can ADAM DO Outputting		
<b>Keyword</b>	ADAM, DO, Open Collector		
<b>Related Product</b>	DO(Open Collector) support among ADAM-4XXX & ADAM-6XXX		

■ **Problem Description:**

This document explains a common question regarding how much voltage/current can DO channel of ADAM-Module outputting.

■ **Brief Solution - Step by Step:**

Unlike from PLC design, users sometimes misunderstanding that DO channel of ADAM-Module is capable of outputting different level of voltage or current based on pre-defined logic(i.e. "0" or "1") at a given DO channel.

If you check DO SPEC from Advantech technical documentation, you often see the following statement in the SPEC:

**DO, Open Collector to 30 V, 30mA Max.Load**

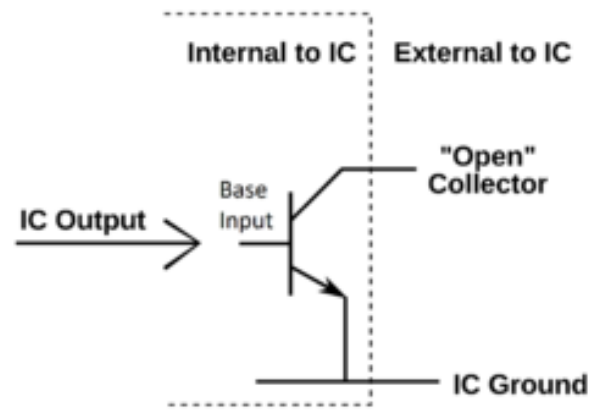
That means, the DO channel of ADAM-Module utilizes an "Open Collector" for which acting like an "Switching Circuit", that is:

**"Open Circuit (no connection to anything)"**

**OR**

**"Short Circuit (connection to ground)".**

So, instead of outputting a signal of a specific voltage or current, a control signal is applied to the base of an internal NPN transistor whose collector is externalized (open) on a pin of the IC. The emitter of the transistor is connected internally to the ground pin.



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