



It is user **RESPONSIBILITY** to check that this manual (in PDF format) refers to product model and version that will be used.

In any case, regarding installation, use and maintenance, the paper-made manual given together with the product **TAKES PRIORITY.**

R.T.A. srl



BRINT.A SERIES INTERFACE FOR BRUSHLESS AMPLIFIERS

1/4

1) GENERAL CHARACTERISTICS

- Interfacing with PNP signals with nominal voltage from 5 Volt to 24 Volt or with NPN signals.
- Amplifier side differential inputs and outputs with high immunity noise.
- Up to 20 meters cables length between interface and drive.
- Two command lines (STEP and DIRECTION) and three feedback lines (ENCODER A, B e Z).

The following Fig. 1a and Fig. 1b show operation mode of command and feedback lines of **BRINT.A** series interface.

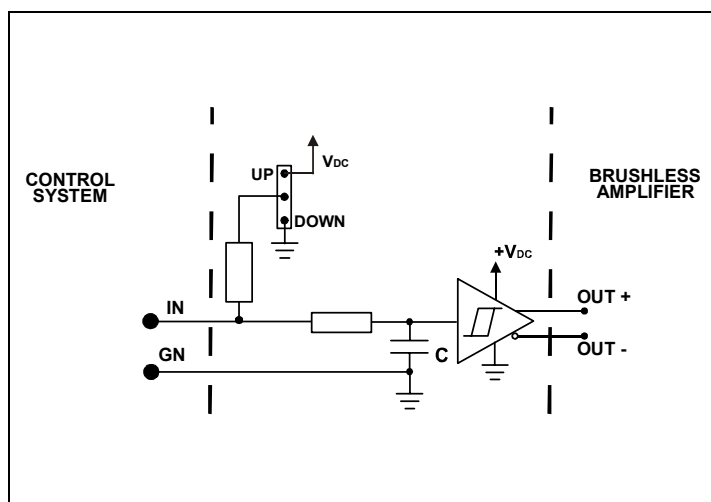


Fig. 1a

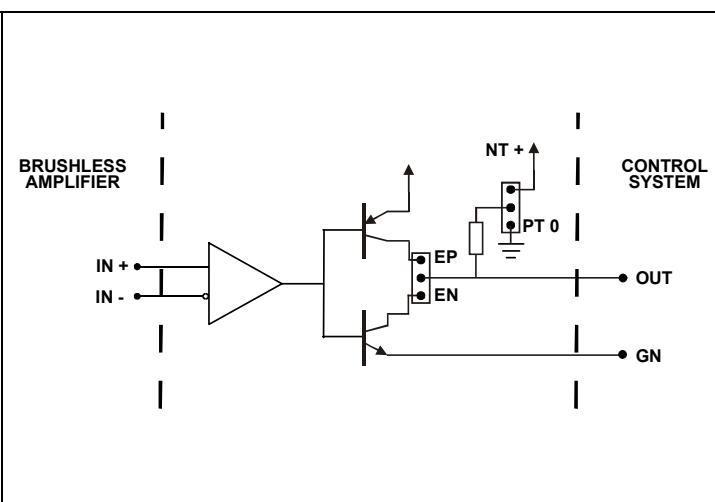


Fig. 1b

NOTE: **BRINT.A** series interface has to be installed near control system. Avoid also to install with more than 40 centimetres cables length between control system and **BRINT.A** series interface. The connection length between **BRINT.A** series interface and Q or R series drive can be up to 20 meters and has to be made with twisted and shielded cable (shield connected to GN on both ends).

The following Table 1 shows connections between **CONTROL SYSTEM** and **BRINT.A** series interface.

CONTROL SYSTEM		
TERMINAL	NAME	DESCRIPTION
1	ZE	Encoder phase Z output signal (< 20 mA max)
2	BE	Encoder phase B output (< 20 mA max)
3	AE	Encoder phase A output (< 20 mA max)
4	ST	STEP Input
5	DR	DIRECTION Input
6	NC	Not connected – DON'T USE
7	+V	Power supply positive pole (from 12 to 24 V _{DC})
8	+V	Power supply positive pole (from 12 to 24 V _{DC})
9	GN	Common power supply – Common signals
10	GN	Common power supply – Shield of shielded cable

TABLE 1

The following Table 2 shows connections between **Q or R series drives** and **BRINT.A** series interface.

DRIVE SIDE			
BRINT.A TERMINAL	NAME	DESCRIPTION	Q OR R AMPLIFIER PIN
11	GN	Amplifier inputs common	47 - 48
12	GN	Amplifier outputs common	12
13	DR+	DIRECTION + output	26
14	DR-	DIRECTION - output	27
15	ST+	STEP + output	28
16	ST-	STEP - Output	29
17	AE-	Phase A encoder input -	4
18	AE+	Phase A encoder input +	3
19	BE-	Phase B encoder input -	6
20	BE+	Phase B encoder input +	5
21	ZE-	Phase Z encoder input -	8
22	ZE+	Phase Z encoder input +	7

TABLE 2

The following Table 3 shows jumpers use.

SETTING INPUTS AND OUTPUTS JUMPERS – CONTROL SYSTEM SIDE					
JUMPER	POS.	FUNCTION		POS.	FUNCTION
S1	DOWN	Pull-down resistors on STEP and DIRECTION inputs	►	UP	Pull-up resistors on STEP and DIRECTION inputs
S2	AEP	Encoder PNP output (phase A)	►	AEN	Encoder NPN (phase A)
S3	BEP	Encoder PNP output (phase B)	►	BEN	Encoder NPN (phase B)
S6	ZEP	Encoder PNP output (phase Z)	►	ZEN	Encoder NPN (phase Z)
S5	APT0	Encoder PNP output (phase A) with (pull-down)		ANT+	Encoder NPN output (phase A) with (pull-up)
S4	BPT0	Encoder PNP output (phase B) with (pull-down)		BNT+	Encoder NPN output (phase B) with (pull-up)
S7	ZPT0	Encoder PNP output (phase Z) with (pull-down)		ZNT+	Encoder NPN output (phase Z) with (pull-up)

TABLE 3

► = Default factory setting.

N.B.: S5, S4, S7 jumpers default without pull-up and without pull-down.

The following Fig. 2 shows physical dimensions and layout of **BRINT.A** series interface.

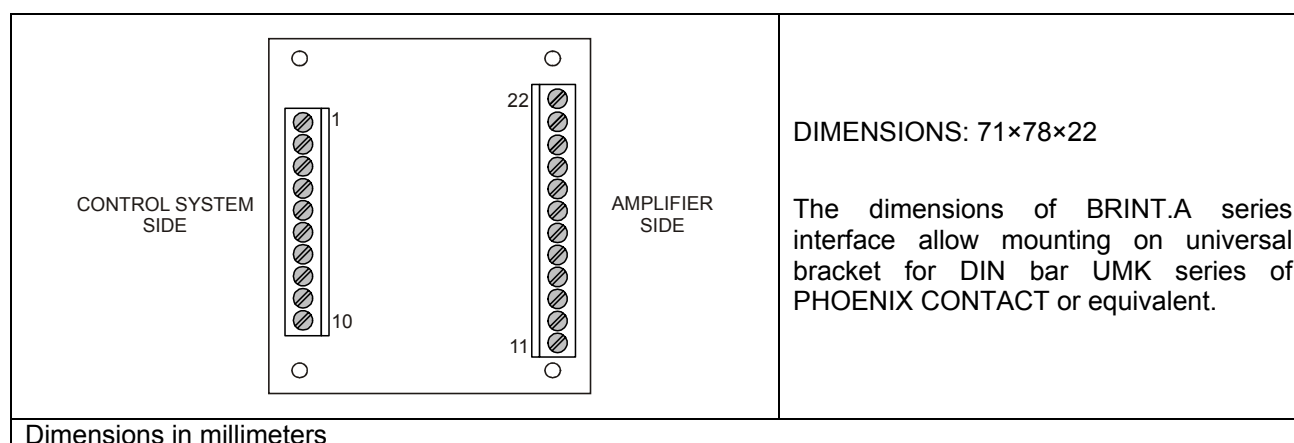


Fig. 2

2) CONNECTION EXAMPLES

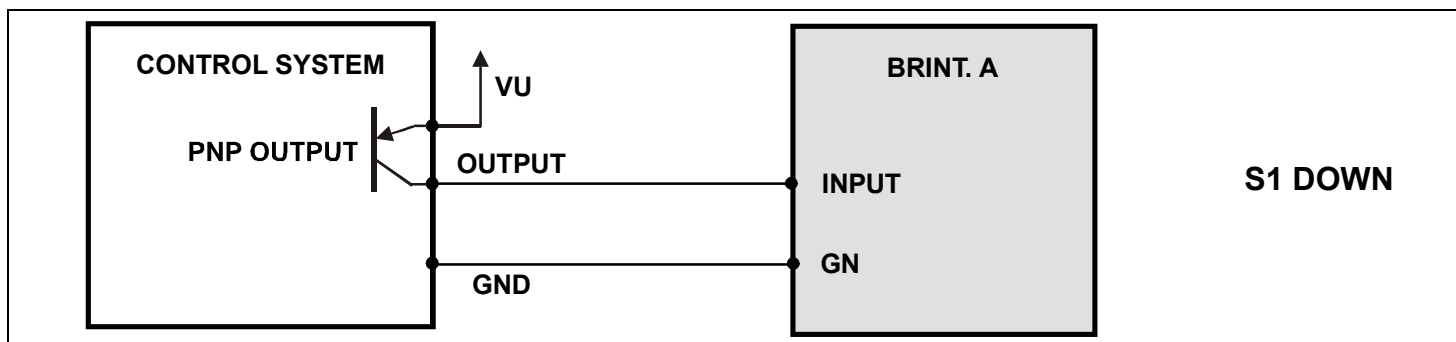


Fig. 3 Connection example between control system with PNP output and **BRINT.A** interface (command line).

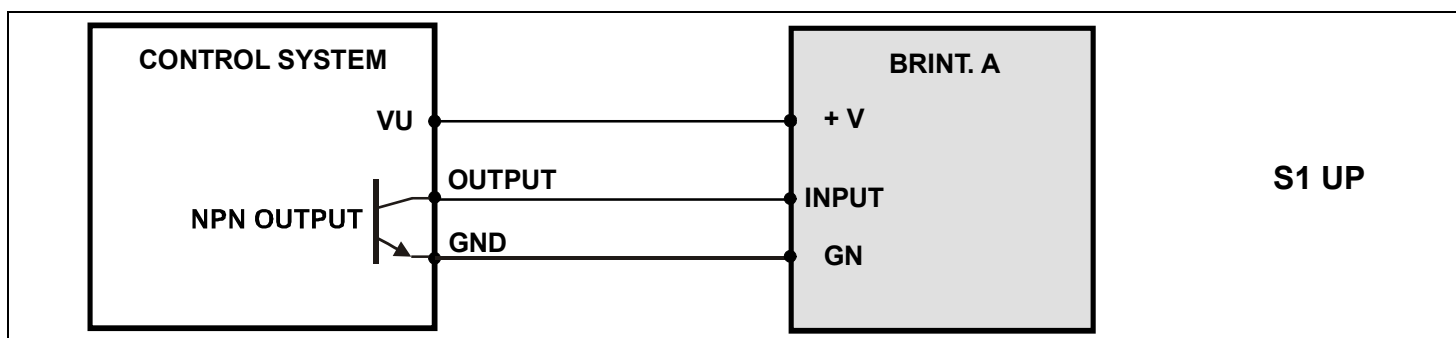


Fig. 4 Connection example between control system with NPN output and **BRINT.A** interface (command line).

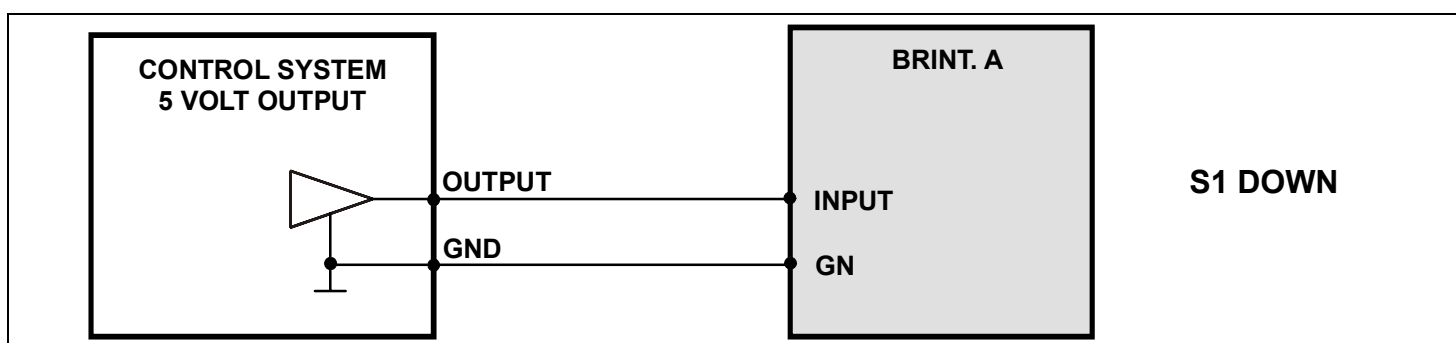


Fig. 5 Connection example between control system with 5 Volt TOTEM-POLE (PUSH-PULL) output and **BRINT.A** interface.

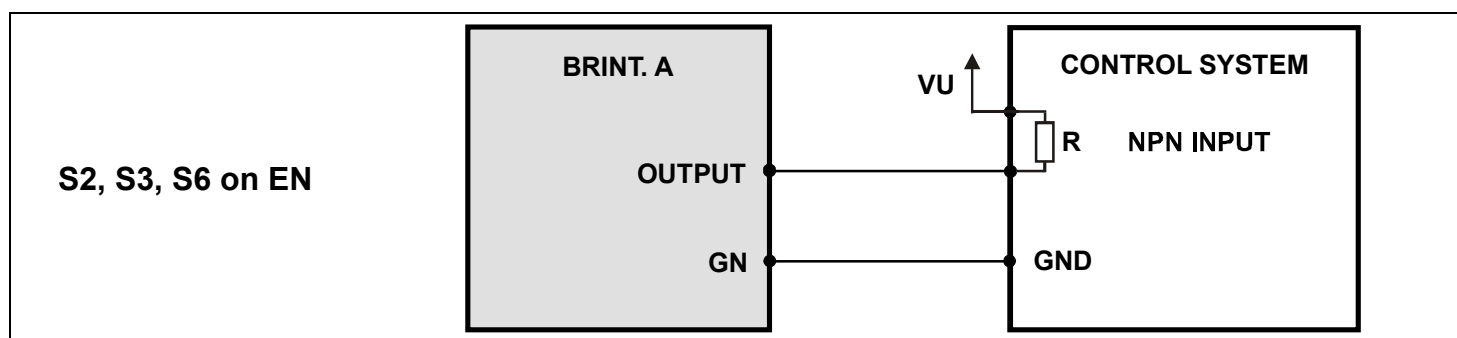


Fig. 6 Connection example between control system with NPN input and **BRINT.A** interface (feedback line).

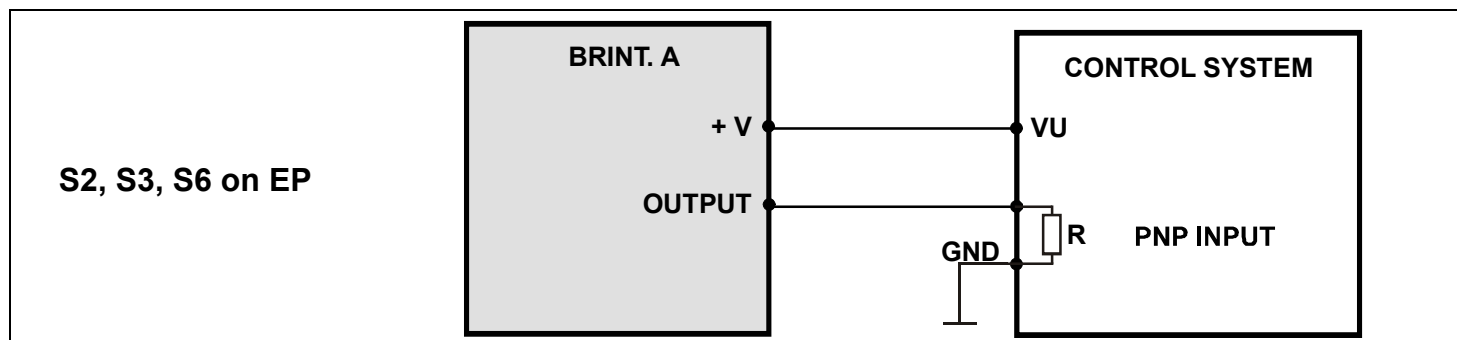


Fig. 7 Connection example between control system with PNP input and **BRINT.A** interface (feedback line).



NOTICES, HAZARDS AND CAUTIONS



- BRINT.A series interface is made to interface a general control system with SANYO DENKI Q or R series amplifiers. It is not allowed the use of these cards for any purpose different from the one indicated in this instruction manual.
- Protection degree IP00 (EN 60529). Settings and connector insertion or extraction has to be done with interface switched off.
- Installation is allowed in a micro-environment with pollution degree 2 (IEC 664-1). Installation in environments in which explosive and/or flammable and/or chemically aggressive and/or electrically conductive gas, vapour or dust could be present is strictly forbidden.
- Use for safety related functions is forbidden (EN 60204-1). Moreover, when the application arrangement is in such way that a drive fault or failure could generate a dangerous condition, external independent safety protection system must be provided in the machine.
- Interface could generate electromagnetic interferences (both radiated and conducted) if instruction manual installation directions are not respected.
- Do not modify nor try to repair BRINT.A series interface.