

Power Amplifiers for High Response Type Directional and Flow Control Valves

AMB-EL-**-**-20

Notice of Model Change

We are pleased to announce that the highly reputed power amplifiers for high response type direction and flow control valves AMB-EL have been remodeled by supporting a wider variety of I/O signal types.

■ Major Changes

While the previous models support only one I/O signal type (voltage signal ± 10 V), the remodeled products support additional I/O signal types (current signal 4 - 10 mA and current signal ± 10 mA). Along with this change, the I/O signal type designation has been added to the model number designation.



■ Specifications

Model Numbers	AMB-EL-01	AMB-EL-03	AMB-EL-04	AMB-EL-06
Max. Output Current	2.5 A (3.9 Ω Solenoid)	3.0 A (3 Ω Solenoid)	2.5 A (3.9 Ω Solenoid)	
Max. Input Voltage	Voltage Signal Type (A, D): ± 10 V/ ± 5 V ^{*1} Current Signal Type (B, E): 4 - 20 mA Current Signal Type (C, F): ± 10 mA			
Input Impedance	Voltage Signal Type (A, D): 100 k Ω (50 k Ω in single-end mode) Current Signal Type (B, C, E, F): 200 Ω			
Slope-off Input	4 - 28 V			
Slope Adjust Time	0.05 - 5 s (The slope adjustment function is not available with AMB-EL-**-2P.)			
Stroke Monitor Signal ^{*2}	Voltage Signal Type (A, D): ± 10 V/Rated Stroke (RL ≥ 10 k Ω) Current Signal Type (B, E): 4 - 20 mA/Rated Stroke (RL 100 - 500 Ω) Current Signal Type (C, F): ± 10 mA/Rated Stroke (RL 100 - 500 Ω)			
Alarm	Open Collector (30 V DC, 10 mA Max.)			
Supply Voltage Range	21 - 28 V DC			
Power Input	30 W	40 W	30 W	
Ambient Temperature	0 - 50 $^{\circ}$ C			
Ambient Humidity	85 %RH or less (No Condensing)			
Connector	DIN41612-F32			
Approx Mass	280 g	280 g	340 g	340 g

■ Applicable to Valve

Power Amplifier Model Numbers	Valve Model Numbers
AMB-EL	ELDFG-01/03 ELDFHG-04/06

*1. The input signal voltage can be switched between ± 10 V and ± 5 V by the "input sensitivity selection jumper plug" in the amplifier.

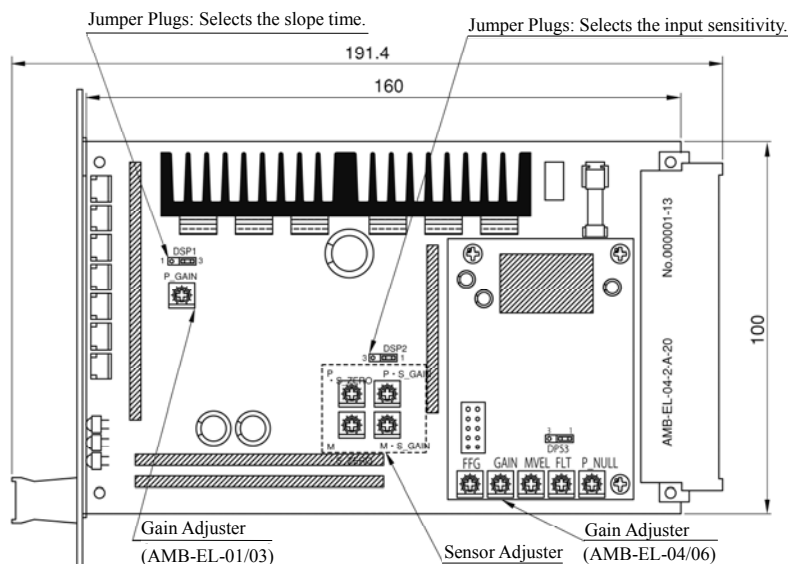
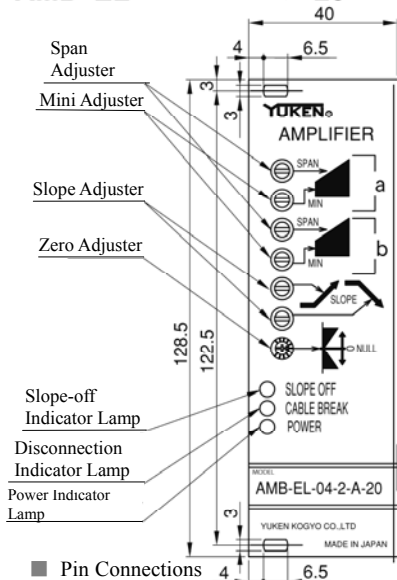
*2. For AMB-EL-04/06, the value corresponds to the monitoring of the main spool stroke; the monitor signal for the pilot spool stroke is ± 10 V/rated stroke.

■ Model Number Designation

AMB	-EL	-03	-2P	-1	-A	-20
Series Number	Type of Function	Size of Applicable Valve	Applicable Spool Type	Compensation	I/O Signal Type	Design Number
AMB	EL: DC Input Type Directional and Flow Control with Minor Feedback	01	None: 3C2, 3C40	*	A: Voltage Signal ± 10 V (Positive Input: P \rightarrow B \rightarrow A \rightarrow T Flow) B: Current Signal 4 - 20 mA (12 - 20 mA: P \rightarrow B \rightarrow A \rightarrow T Flow) C: Current Signal ± 10 mA (Positive Input: P \rightarrow B \rightarrow A \rightarrow T Flow) D: Voltage Signal ± 10 V (Positive Input: P \rightarrow A \rightarrow B \rightarrow T Flow) E: Current Signal 4 - 20 mA (12 - 20 mA: P \rightarrow A \rightarrow B \rightarrow T Flow) F: Current Signal ± 10 mA (Positive Input: P \rightarrow A \rightarrow B \rightarrow T Flow)	20
		03		1: 40/80 L/min		
		04	2: 280 L/min			
		06	3: 350 L/min 4: 500 L/min			

Please refer to us for *.

AMB-EL-※-※-※-※-20

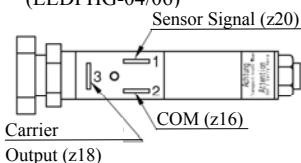


Pin Connections and Functions

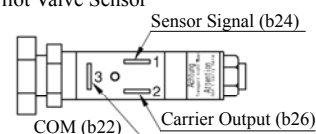
Pin No.	Name	Pin No.	Name
b02	Power Supply 0 V	z02	sol a(+)
b04	Power Supply 0 V	z04	sol a(-)
b06	sol b(+)	z06	
b08	sol b(-)	z08	
b10		z10	Command Input (+)
b12		z12	Command Input (-)
b14	COM	z14	
b16	Power Supply +24 V	z16	COM (NO. 2)
b18	Power Supply +24 V	z18	Carrier (NO. 3)
b20	Slope Off	z20	Signal (NO. 1)
b22	COM (NO. 3)	z22	
b24	Signal (NO. 1)	z24	Alarm Output (-)
b26	Carrier (NO. 2)	z26	Alarm Output (+)
b28	Output 24 V	z28	Stroke Monitor Signal (P) ^{*2}
b30	Output 24 V	z30	Stroke Monitor Signal (S) ^{*3}
b32	FG	z32	

Sensor Connection

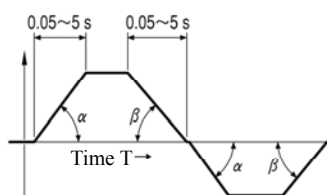
● Main Valve Sensor (ELDFHG-04/06)



● Direct Type Control Valve/ Pilot Valve Sensor



Lamp Pattern



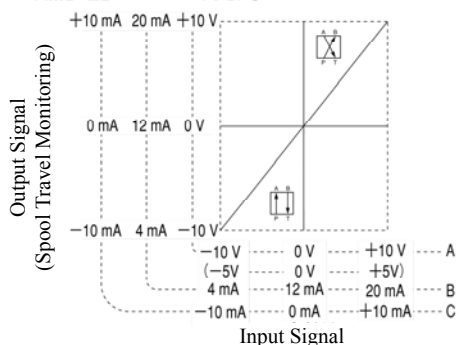
*1. See the "sensor connection" diagram on the right.

*2. AMB-EL-01/03: Spool travel monitoring (according to the I/O signal type)
AMB-EL-04/06: Pilot spool travel monitoring (fixed to ±10 V)

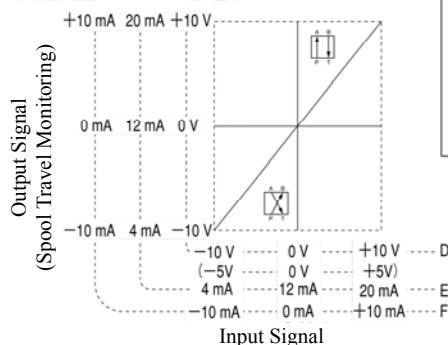
*3. AMB-EL-04/06: Spool travel monitoring (according to the I/O signal type)

I/O Signal Characteristics

AMB-EL-※-※-※-※-20-A/B/C



AMB-EL-※-※-※-※-20-D/E/F



This power amplifier requires connector cards for connection. A connector card attached model is also available. Please ask for details if interested.

Timing of Release

Scheduled to be released in MM 2013.

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