

# OBE Type High Response Proportional Electro-Hydraulic Directional and Flow Control Valves

The ELDFG and ELDFHG series, high response type proportional electro-hydraulic directional and flow control valves, have now been equipped with an amplifier, offering even easier operation.



Direct Type  
ELDFG-01EH/03EH



Two Stage Type  
ELDFHG-04EH/06EH

## ■ Features

### Feature 1 Simple

The addition of OBE to the ELDF(H)G series valves for simplified wiring offers simple operation and user-friendliness. Only with 24 V DC power supply and command signal input, the valves allow highly accurate and fast operation of hydraulic systems.

### Feature 2 Response Characteristics Equivalent to Simple Servo Valves

A closed loop structure provided by incorporating a spool position detection differential transformer enables feed back control, achieving high response equivalent to a simple servo valve.

### Feature 3 High Accuracy

The valves have a hysteresis of 0.1% or less, achieving high accuracy equivalent to that of servo valves. The 2% overlap type (spool type: 3C2L) with linear no-load flow characteristics is suitable for position and pressure control in machinery/equipment.

### Feature 4 Safety and Reliability

The valves support a fail-safe function to ensure safe operation in the event of electric failure (power failure, power cable disconnection, etc.).

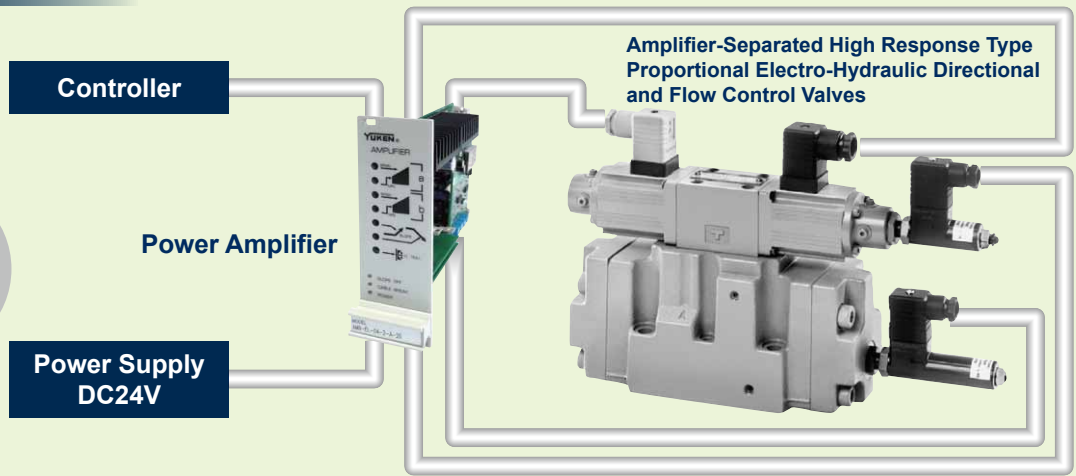
## ■ Specifications

Item	Model number	ELDFG-01EH	ELDFG-03EH	ELDFHG-04EH	ELDFHG-06EH-350	ELDFHG-06EH-500	
Max. Operating Pressure	MPa	35		35	35	31.5	
Proof Pres. at Return Port	01EH/03EH MPa	21			—		
Proof Pres. at Return Port	External Drain	T Port	MPa	—	31.5	35	25
		Y Port	MPa	—		21	
	Internal Drain	T&Y Port	MPa	—		21	
Rated Flow $\Delta P=1$ MPa (4-Way Valve)	L/min	10,20,35	40,80	280	350	500	
Hysteresis		0.1 or less					
Step Response(Typical Rating) 0-100 %V Supply and Pilot Pressure 14 MPa	ms	16	23	20	20	22	
Frequency Response(Typical Rating) $\pm 25$ % Amplitude Supply and Pilot Pressure 14 MPa	Phase: $-90^\circ$	80	50	51	50	45	
	Gain: $-3$ dB			56			
Vibration Proof		100 m/s <sup>2</sup>					
Protection		Equivalent to IP65					
Ambient Temperature	°C	-15~+60			0~+50		
Spool Stroke to Stops		$\pm 2.5$	$\pm 3$	$\pm 5$	$\pm 5$	$\pm 7$	
Current	A	2(MAX.3)					
Coil Resistance at 20 °C	$\Omega$	3	2	3			
Approx. Mass	kg	3.3	7.3	13	19		
Electric Connection		6+PE Connector [EN175201 Part804]					
Spool Type	3C2:10 % Overlap			3C2:10 % Overlap			
	3C40:A,B,T Connection						
	3C2L:2 % Overlap (Linear Flow Gain)			3C40:A,B,T Connection			

■ Comparison of wiring

Standard

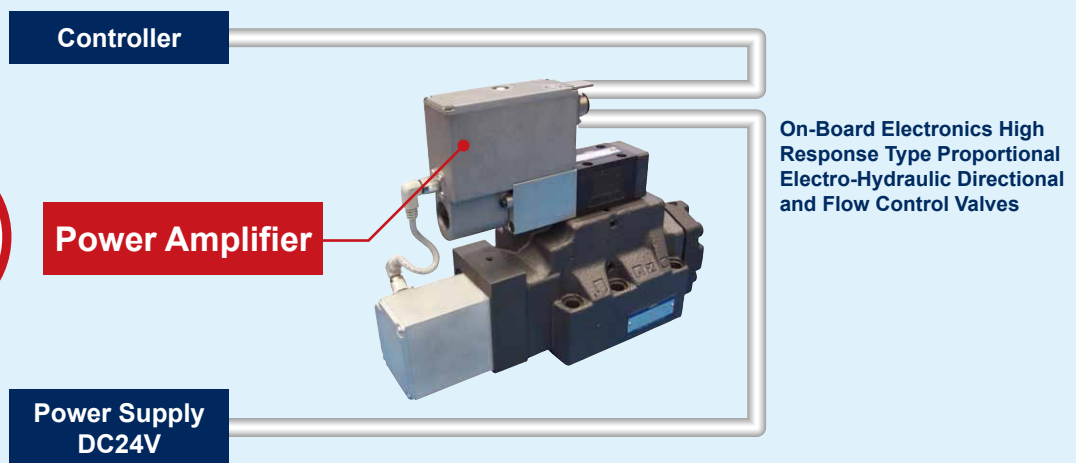
Amplifier-Separated



The wiring to a power amplifier is necessary.

New Product

On-Board Electronics

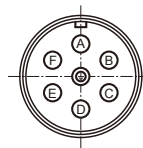


Wiring is simplified by the power amplifier deployment!

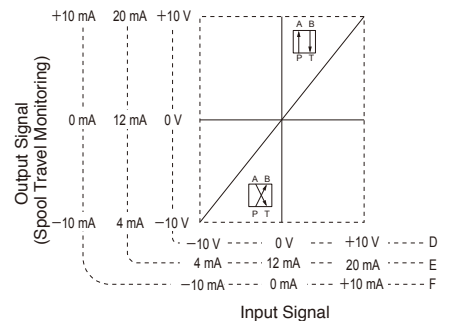
■ Electrical specifications

Input Signal		Voltage Signal ±10 V	Current Signal "E" 4~20 mA	Current Signal "F" ±10 mA
Pin A	Power Supply	DC 24 V (DC 21.6~26.4 V Included Ripple) 75 VA or more		
Pin B		0 V		
Pin C	Signal Common	COM (0 V)		
Pin D	Input (+) (Differential)	0~±10 V	4~20 mA	0~±10 mA
Pin E	Input (-) (Differential)	R <sub>i</sub> ≥ 50 kΩ	R <sub>i</sub> ≥ 200 Ω	R <sub>i</sub> = 200 Ω
Pin F	Spool Travel Monitoring	0~±10 V	4~20 mA	0~±10 mA
		R <sub>L</sub> ≥ 10 kΩ	R <sub>L</sub> = 100~500 Ω	R <sub>L</sub> = 100~500 Ω
Pin Ⓧ	Protective Earth	—		

■ Pin Arrangement



■ I/O Signal Characteristics



■ Application

Injection molding machines, machine tools, wood processing machines, simulators, etc.

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