



BY340 / BY641

High performance low cost synchronous controllers for one slave axis

Product Features:

- Precision angular synchronization and speed ratio control
- High accuracy due to high feedback frequency range (300 kHz with TTL encoders and 200 kHz with HTL encoders)
- Full remote phase control by Index pulse operation, Trim functions etc.
- Four programmable alert outputs
- Most compact unit including operator panel for direct access and RS232 interface for remote access
- PROFIBUS DP interface available (option)
- Analog output, configurable for voltage or current operation
- 24 VAC / 17 ... 40 VDC power supply

Available Devices:

- **BY340:** Synchronizer with speed ratio setting by keypad, 14 bit analog output and 4 power transistor outputs for alerts
- **BY641:** Synchronizer with features like BY340, but additional front thumbwheel switches for speed ratio and 4 relay outputs for alerts

Technical Specifications:		
Power supply:	Input voltage (AC): Input voltage (DC): Protection circuit: Consumption: Connections:	24 VAC +/- 10 %, 15 VA 17 ... 40 VDC reverse polarity protection 100 mA at 24 VDC (unloaded) screw terminal, 1.5 mm ² / AWG 16
Encoder supply:	Number of aux. voltages: Output voltage 1: Output current 1: Output voltage 2: Output current 2: Connections:	2 (each double-performed) 24 VDC max. 120 mA each 5.2 VDC max. 150 mA each screw terminal, 1.5 mm ² / AWG 16
Incremental input:	Signal levels: Channels: Frequency: Internal resistance: Connections:	HTL: LOW 0 ... 2 V, HIGH 10 ... 30 V TTL: LOW 0 ... 0.8 V, HIGH 3 ... 5 V RS422: Differential voltage > 1 V symmetrical: A, /A, B, /B or asymmetrical: A, B RS422 / TTL symmetrical: 300 kHz HTL or TTL asymmetrical: 200 kHz Ri ≈ 8.5 kOhm screw terminal, 1.5 mm ² / AWG 16
Control inputs:	Number of inputs: Signal levels: Characteristic: Internal resistance: Min. pulse time: Connections:	4 (configurable) HTL: LOW 0 ... 2.5 V, HIGH 10 ... 30 V NPN / PNP / Namur Ri ≈ 3.3 kOhm 50 μs screw terminal, 1.5 mm ² / AWG 16
Control outputs:	Number of outputs: Protection circuit: Characteristic: Output current: Reaction time: Connections:	4 fast transistor outputs * short circuit proof PNP, 5 ... 30 V 350 mA each < 1 ms ** screw terminal, 1.5 mm ² / AWG 16
Relay outputs: (only with Version BY641)	Number of outputs: Switching capacity: Reaction time: Connections:	4 potential-free changeovers * 250 VAC / 1 A / 250 VA or 100 VDC / 1 A / 100 W approx. 10 ms screw terminal, 1.5 mm ² / AWG 16
Analog output:	Voltage output: Current output: Resolution: Accuracy Reaction time: Connections:	+/- 10 V, max. 2 mA 0 / 4 ... 20 mA (burden: max. 270 Ohm) 14 bit (± 13 bit) 0.1 % < 1 ms ** screw terminal, 1.5 mm ² / AWG 16
Serial interface:	Format: Baud rate (selectable): Connections:	RS232 600, 1200, 2400, 4800, 9600, 19200, 38400 Baud screw terminal, 1.5 mm ² / AWG 16
Housing:	Type / Material: Mounting: Dimensions BY340: Dimensions BY641: Protection class BY340: Protection class BY641: Accessories: Weight:	Norly UL94-V-0 / plastic panel cut out (w x h): 91 x 44 mm / 3.59 x 1.73 inch outer dimensions (w x h x d): 110 x 48 x 141 mm / 4.33 x 1.89 x 5.55 inch cut out (w x h): 89 x 91 mm / 3.50 x 3.59 inch outer dimensions (w x h x d): 110 x 96 x 141 mm / 4.33 x 3.78 x 5.55 inch front: IP 65 / rear: IP20 front: IP 20 *** / rear: IP20 ***) with optional plexiglass cover part # 64026 also IP65 achievable SM300: optional mounting bracket for top hat rail mounting of BY340 units BY340: approx. 250 g / BY641: approx. 370 g
Ambient temperature:	Operation: Storage:	0 °C ... +45 °C / +32 ... +113 °F (not condensing) -25 °C ... +70 °C / -13 ... +158 °F (not condensing)
Conformity & standards:	EMC 2004/108/EC: LV 2006/95/EC: Guideline 2011/65/EU:	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4 EN 61010-1 RoHS-conform

*) Diode or RC filtering is mandatory when switching inductive loads **) Continuous serial communication may temporary increase response times