

Autonics ROTARY ENCODER (ABSOLUTE TYPE) ENP SERIES INSTRUCTION MANUAL



Thank you for choosing our Autonics product. Please read the following safety considerations before use.

Safety Considerations

- Please observe all safety considerations for safe and proper product operation to avoid hazards. Warning: Failure to follow these instructions may result in serious injury or death. Caution: Failure to follow these instructions may result in personal injury or product damage. 1. Fail-safe device must be installed... 2. Install on a device panel to use... 3. Do not connect, repair, or inspect the unit while connected to a power source... 4. Check 'Connections' before wiring... 5. Do not disassemble or modify the unit... Caution: 1. Use the unit within the rated specifications... 2. Do not short the load... 3. Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present... 4. Do not use the unit near the place where there is the equipment which generates strong magnetic force or high frequency noise and strong alkaline, strong acidic exists...

Ordering Information

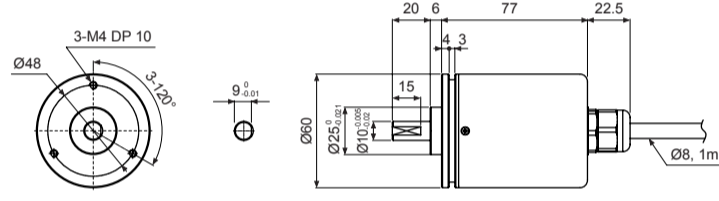
Ordering information table with columns: ENP, Resolution, R, 360, P. Includes a detailed table explaining the output code and power supply options.

Specifications

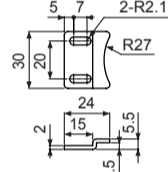
Specifications table listing Type, Model, Resolution, Output phase, Output angle, Control output, Response time, Max. response frequency, Power supply, Current consumption, Insulation resistance, Dielectric strength, Connection, Mechanical specification, Vibration, Shock, Environment, Protection structure, Cable, Accessory, and Weight for various encoder models.

Make sure that max. response revolution should be lower than or equal to max. allowable revolution when selecting the resolution. Max. response revolution (rpm) = Max. response frequency x 60 sec / Resolution

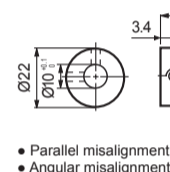
Dimensions



Bracket



Coupling



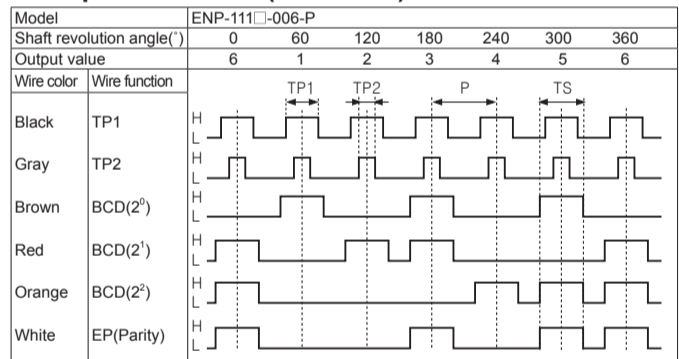
- Do not load overweight on the shaft. Do not put strong impact when insert a coupling into shaft. Fix the unit or a coupling by a wrench under 0.15 N·m of torque. When you install this unit, if eccentricity and deflection angle are larger, it may shorten the life cycle of this unit.

Connections

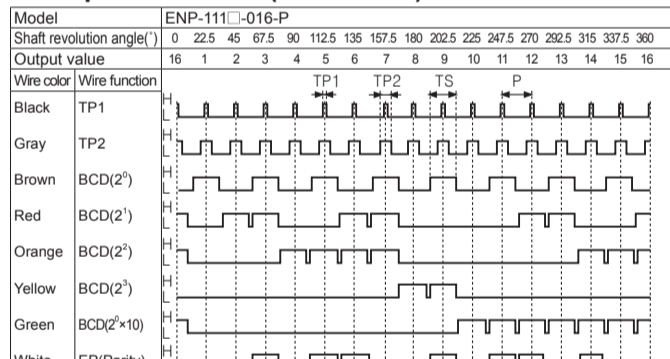
Connections table mapping wire colors to resolution and output functions (TP1, TP2, BCD, EP). Includes notes on insulation and grounding.

1: Insulator external diameter is Ø1.5mm. 2: TP1/TP2. Because low resolution model has long output signal period, this signal for enable is easy to determine signal recognition point about output. 3: EP. Parity signal. It outputs odd parity. Unused wire must be insulated. Encoder case and shield wire must be grounded. N-C: Not Connected. Output cable must not be short-circuited, because Driver IC is used in output circuit. Do not apply tensile strength over 30N to the cable.

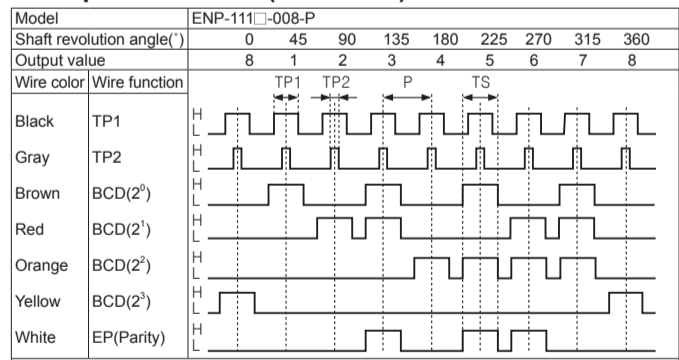
Output Waveform (6 division)



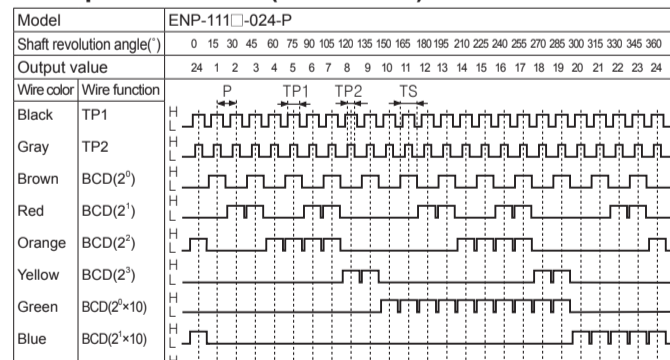
Output Waveform (16 division)



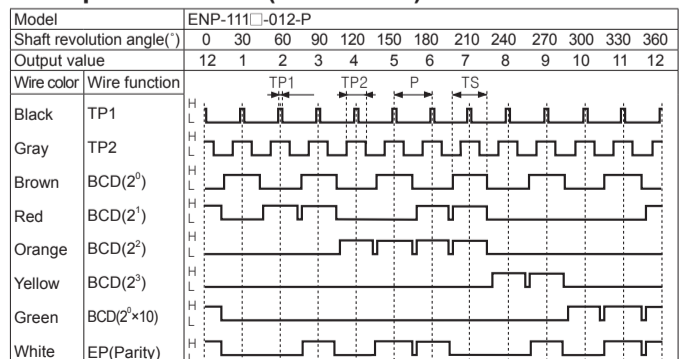
Output Waveform (8 division)



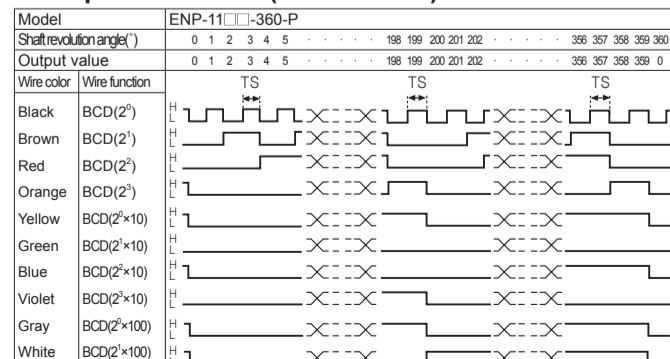
Output Waveform (24 division)



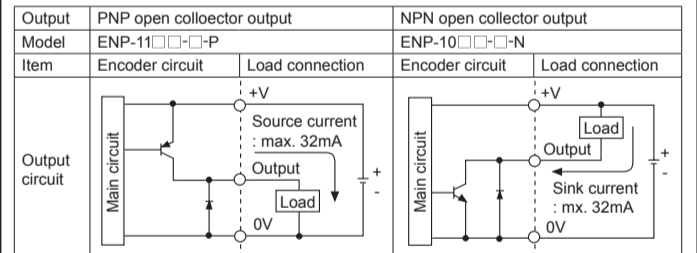
Output Waveform (12 division)



Output Waveform (360 division)



Control Output Diagram



The output circuit of each output signal is the same.

Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents. 5VDC, 12-24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device. Ground the shield wire to the F.G. terminal. Wire as short as possible and keep away from high voltage lines or power lines, to prevent inductive noise. Check the wire type and response frequency when extending wire because of distortion of waveform or residual voltage increment etc by line resistance or capacity between lines. This unit may be used in the following environments: Indoors, Altitude max. 2,000m, Pollution degree 2, Installation category II.

Main Products

- Photoelectric Sensors, Temperature Controllers, Fiber Optic Sensors, Temperature/Humidity Transducers, Door Sensors, SSRs/Power Controllers, Door Side Sensors, Counters, Area Sensors, Timers, Proximity Sensors, Panel Meters, Pressure Sensors, Tachometer/Pulse (Rate) Meters, Rotary Encoders, Display Units, Connector/Sockets, Sensor Controllers, Switching Mode Power Supplies, Control Switches/Lamps/Buzzers, I/O Terminal Blocks & Cables, Stepper Motors/Drivers/Motion Controllers, Graphic/Logic Panels, Field Network Devices, Laser Marking System (Fiber, CO2, Nd: YAG), Laser Welding/Cutting System.

