CLAIMS:

1. A programmable rotary actuator comprising:

a drive stem with a coupling located at an end for fitting to a knob of an appliance or a handle/knob of a door, and the drive stem is connectable to a gear-motor assembly;

a conical joint being coaxial with the drive stem, so that the drive stem is dis-connectable from the gear-motor assembly when a force is pushing on the setting knob during initial setting of the programmable rotary actuator and when the force is released, the conical joint springs back and connects the drive stem to the gear-motor assembly, and controlled operation of the gear-motor assembly operates on the drive stem;

a hollow housing for supporting the gear-motor assembly and related controls, wherein two opposite sidewalls of the hollow housing has an open slot on each sidewall for a user to check connection of the drive stem to the coupling;

a setting knob connected to an end of the drive stem opposite the coupling; and

a control panel with a monitor screen and some operation buttons for program setting or adjusting the gear-motor assembly and related controls to operate the programmable rotary actuator.

2. The programmable rotary actuator according to claim 1, wherein the coupling comprises a pair of spaced-apart clamping members.

3. The programmable rotary actuator according to claim 1 or 2, wherein interfacing surfaces of the conical joint are splined to provide positive engagement.

4. The programmable rotary actuator according to any one of claims 1-3, further comprising a flexible member extending from an edge of the hollow housing.

5. The programmable rotary actuator according to claim 4, wherein a battery for operating the rotary actuator is disposed inside the flexible member.

6. The programmable rotary actuator according to claim 4 or 5, wherein a detachable connector is located on the flexible member or on an extension part of the hollow housing to provide a resisting torque when operating the gear-motor assembly.

7. The programmable rotary actuator according to any one of claims 1-6, wherein the drive stem proximal to the adjustable gripper is threaded and is journaled through both a threaded sleeve and a coaxial electric clutch or brake.

8. The programmable rotary actuator according to any one of the preceding claims, further comprising a motion sensor.

9. The programmable rotary actuator according to any one of the preceding claims, further comprising a wireless communicator, which is programmable to send a reminder or alert to a mobile device according to execution of a program set by the user.

10. The programmable rotary actuator according to claim 1, wherein the coupling comprises a connector for coupling directly to a spindle of the knob.

11. A kit for configuring a programmable rotary actuator comprising:

an adjustable gripper, which comprises a pair of clamping members being spaced apart to fit onto a knob of a stove or a handle of a deadbolt on a door;

a drive stem for connecting the adjustable gripper to a gear-motor assembly, wherein controlled operation of the gear-motor assembly actuates the adjustable gripper;

a hollow housing for supporting the gear-motor assembly and related controls, wherein two opposite sidewalls of the hollow housing has an open slot on each sidewall through which the adjustable gripper can be manipulated by a user’s finger and thumb for clamping onto the knob or handle;

a setting knob for connection to an end of the drive stem opposite the adjustable gripper;

a control panel with a monitor screen and some operation buttons for program setting or adjusting the gear-motor assembly and related controls; and

a battery for powering the gear-motor assembly and related controls.

12. The kit according to claim 11, further comprising a motion sensor.

13. The kit according to claim 11 or 12, further comprising a conical joint located co-axial with the drive stem, wherein the conical joint is engageable or dis-engageable between the drive stem and the gear-motor assembly.