CLAIMS

1. A drug delivery system (100), comprising:
an oblong housing (200) comprising a setting structure (210) configured to set a dose of a drug via an angular position (212); and
a sensor structure (300) configured to determine the dose,
wherein the sensor structure (300) comprises a magnet (310) and a magnetic sensor (320), arranged so that an angular position (322, 323) and a displacement (324) of the magnetic sensor (320) relative to the magnet (310) is determinable as a function of the electrical resistance of the magnetic sensor (320), and
wherein the sensor structure (300) is arranged in relation to the setting structure (210) so that the angular or axial position (212) of the setting structure (210) is determined as a function of the angular position (322, 323) and/or the displacement (324) of the magnetic sensor (320).

2. The drug delivery system (100) according to claim 1, wherein the oblong housing (200) further comprises an actuator (220) configured to drive an expelling mechanism, to release the dose of drug, wherein at least part of an actuator displacement (224) is axial.

3. The drug delivery system (100) according to any of the previous claims, wherein the sensor structure (300) is configured to determine an actuation of the actuator (220), by determining an axial displacement (324) of the magnetic sensor (320) relative to the magnet (310).

4. The drug delivery system (100) according to any of the previous claims, wherein the oblong housing (200) comprises a cylindrical section with a cylindrical axis, the cylindrical section comprising the setting structure (210) and the actuator, wherein the magnet (310) is positioned on the actuator (220) at a line, which line is parallel to or collinear with the axis,

and the magnetic sensor (320) is positioned radially around the cylindrical axis.

5. The drug delivery system (100) according to any of the previous claims, wherein the magnetic sensor (320) comprises a GMR sensor.

6. The drug delivery system (100) according to claim 5, wherein the electrical resistance of the magnetic sensor (320) is a giant magneto resistance of the GMR sensor.

7. The drug delivery system (100) according to any of the previous claims, wherein the magnetic sensor (320) comprises a flexible foil (350).

8. The drug delivery system (100) according to claim 4 and claim 7, wherein the flexible foil (350) is wrapped onto the cylindrical section.

9. The drug delivery system (100) according to any of the previous claims, wherein the sensor structure (300) is configured so that the angular position (322, 323) and the displacement (324) of the magnetic sensor (320) relative to the magnet (310) is determined as a function of the electrical resistance of the magnetic sensor (320).

10. The drug delivery system (100) according to any of the previous claims, wherein the magnetic sensor (320) comprises an array (326) of sensors.

11. The drug delivery system (100) according to claims 7 to 10, wherein the flexible foil (350) further comprises a circuit for signal processing.

12. The drug delivery system (100) according to any of the previous claims 7 to 11, wherein the flexible foil (350) further comprises a circuit for wireless communication.

13. A sensor structure (300), for a drug delivery system (100) comprising an oblong housing (200) comprising a setting structure (210) configured to set a dose of a drug via an angular position (212), the sensor structure (300) comprising:

a magnet (310) and a magnetic sensor (320), arranged so that an angular position (322, 323) and a displacement (324) of the magnetic sensor (320) relative to the magnet (310) is determinable as a function of the electrical resistance of the magnetic sensor (320).