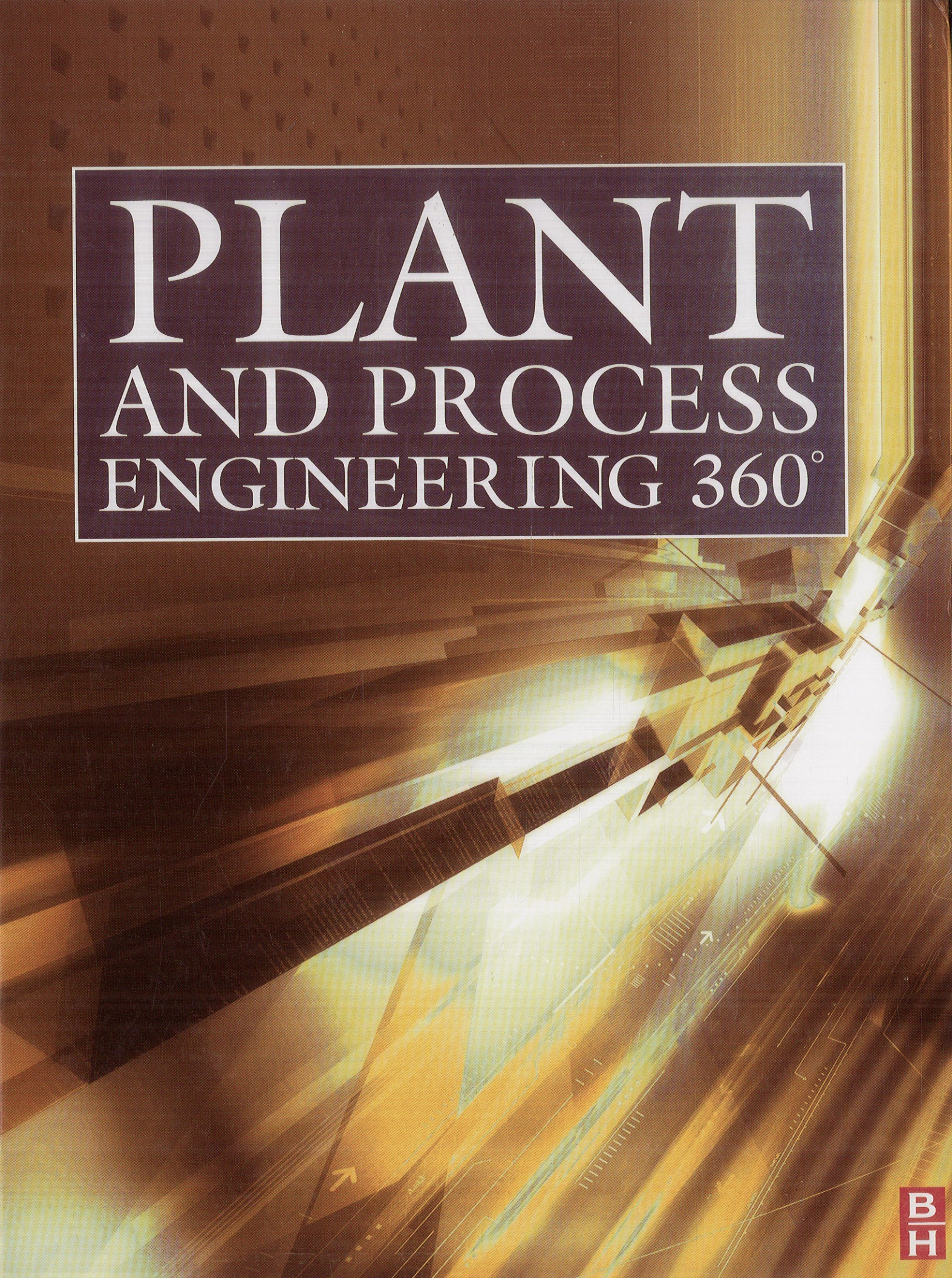




PLANT AND PROCESS ENGINEERING 360°

Contents

Section 1	INTRODUCTION	1
1.1	Instrumentation and transducers	3
1.2	Control systems	43
1.3	Programmable controllers	109
1.4	Control systems interfacing	165
Section 2	MOTORS AND DRIVES	255
2.1	Electromechanical systems	257
2.2	Analysing a drive system	277
2.3	Motors, motor control and drives	295
2.4	Variable speed drives	317
2.5	Induction motors	341
Section 3	ELECTRONIC DRIVE CONTROL	363
3.1	Electronic circuits and devices	365
3.2	Electronic converters	381
Section 4	POWER TRANSMISSION	411
4.1	Power transmission	413
4.2	Gears and gearboxes	431
Section 5	HYDRAULIC AND PNEUMATIC SYSTEMS	439
5.1	Hydraulic fundamentals	441
5.2	Pneumatic fundamentals	489
5.3	Pump types and characteristics	509
5.4	Centrifugal pump design	519
5.5	Pump hydraulics	537
5.6	Hydraulic pumps and pressure regulation	555
5.7	Actuators	579
	Index	597