

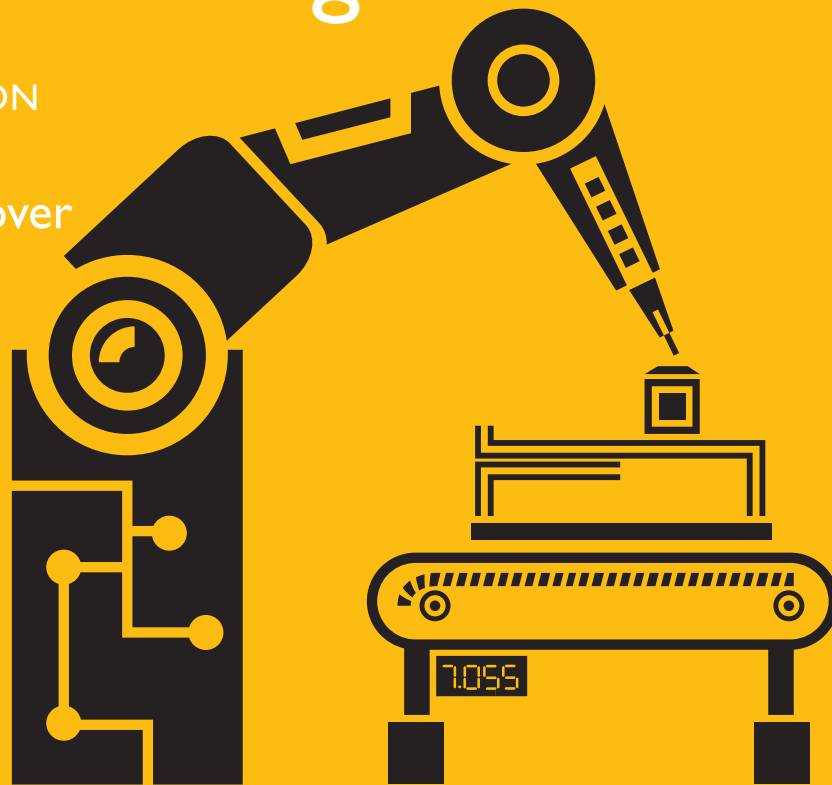
GLOBAL  
EDITION



# Automation, Production Systems, and Computer-Integrated Manufacturing

FOURTH EDITION

Mikell P. Groover



ALWAYS LEARNING

PEARSON

# Abbreviations Used in This Book

Abbreviation	Unabbreviated Unit(s)
A	amps
C	Celsius, Centigrade
cm	centimeters
F	Fahrenheit
hp	horsepower
hr	hour, hours
Hz	hertz (sec) <sup>-1</sup>
in	inch, inches
lbf	pounds force
m	meters
min	minute, minutes
mm	millimeters
MPa	megapascals (N/mm <sup>2</sup> )
mV	millivolts
N	newtons
ops	operations
Pa	pascals (N/m <sup>2</sup> )
pc	pieces, parts
rad	Radians
rev	revolutions
sec	second, seconds
V	volts
W	watts
wk	week, weeks
yr	year, years
μ-in	microinches
μm	microns, micrometers
μ-sec	microseconds
μV	microvolts
Ω	ohms

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