

Reorder Point and EOQ Planner

How-to guide: what the workbook does, how to use it and what every number means.

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Reorder Point and EOQ Planner

For every item: the economic order quantity, safety stock for your service level, the reorder point, and whether stock on hand and on order says order now.

For: Buyers, material planners, inventory and supply-chain managers, and small-shop owners who place replenishment orders.

Version 1.0.0 · updated 15 October 2026

Quick start

1. On Setup, type your company name and currency, carrying-cost rate, working days per year, review window and the service level for A, B and C items.
2. On Item Plan, list your items: annual demand, daily demand variability, lead time and its variability, unit cost, cost per order, current order quantity, on hand and on order.
3. Read the Reorder status column: Overdue means at or below the reorder point (order now), Due soon means within the review window.
4. Open the Dashboard: the order list, days of cover above the reorder point, the saving from ordering EOQ, and the cost curve for any item.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Company, currency, carrying-cost rate, working days, review window and service level per class.
Item Plan	One row per item: EOQ, safety stock, reorder point and whether to order now.
Dashboard	What to order now, the saving from ordering the economic quantity, and the EOQ cost curve for any item.
Method	How every number is calculated, with assumptions, limits and sources.
Verify	Self-check: the workbook's formulas recomputed on fixed inputs against an independent reference.

What each number means

Quantity	How it is calculated	Units
Daily demand d	Annual demand / working days per year.	units/day
Service factor z	NORM.S.INV(cycle service level of the item's class).	-
Safety stock	$z \times \text{SQRT}(\text{LT} \times \text{sd}_d^2 + d^2 \times \text{sd}_{\text{LT}}^2)$: LT lead time, sd_d daily demand std dev, sd_LT lead time std dev.	units

Quantity	How it is calculated	Units
Reorder point	$d \times LT + \text{safety stock}$.	units
Holding cost H	Unit cost x carrying-cost rate: the cost of holding one unit for a year.	currency/unit
EOQ	$\text{SQRT}(2 \times D \times S / H)$: D annual demand, S order cost.	units
Orders per year	D / EOQ .	orders/year
Annual cost at Q	$D \times S / Q + H \times Q / 2$ (ordering + holding of cycle stock), at $Q = \text{EOQ}$ and at the current order quantity; saving = the difference.	currency/year
Safety stock value	Safety stock x unit cost.	currency
Inventory position	On hand + on order.	units
Cover above ROP	$(\text{Inventory position} - \text{reorder point}) / d$. Negative = below the reorder point.	days
Reorder status	Overdue at or below the reorder point (order now); Due soon if cover above ROP $\leq$ review window; OK otherwise.	-
Order list	Items ranked by cover above ROP (Urgency rank helper: RANK ascending + item-code tie-break), looked up with INDEX/MATCH.	-
Cost curve	For the selected item: $Q = 0.25$ to $3 \times \text{EOQ}$; ordering $D \times S / Q$, holding $H \times Q / 2$, total their sum.	currency/year

Assumptions, limitations, sources and the self-check (the Verify sheet, which recomputes the workbook's formulas on fixed test inputs) are in the workbook. The last page shows the Dashboard with the example data for Moreno Control Systems, a fictional business.

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Reorder Point and EOQ Planner

What to order now, the saving from ordering the economic quantity, and the EOQ cost curve for any item.

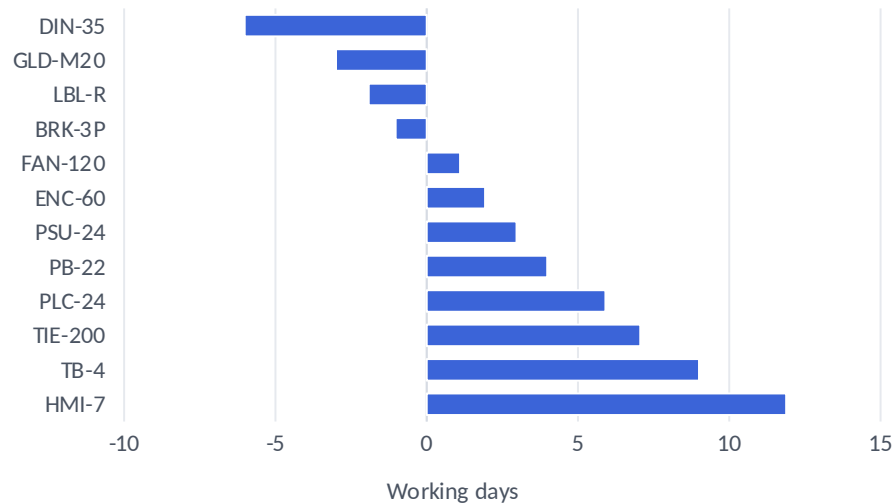
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Cost curve item

Planning 20 items for Moreno Control Systems (example). Cost curve: HMI-7, the item with the largest saving (pick another above).

ITEMS TO ORDER NOW	ITEMS DUE SOON	SAVING AT EOQ (MXN PER YEAR)	SAFETY STOCK VALUE (MXN)
4	4	108,683	790,841
At or below the reorder point	Within the review window on Setup	Ordering + holding cost, current lots vs EOQ	Safety stock x unit cost, all items

Days of cover above the reorder point



EOQ cost curve for the selected item

