Screw clamp terminals vs Lug terminals

A lot of contactors and circuit-breakers manufactured by the Switching and Controlling Line of Business exist under two close versions for what regards the type of connecting terminals: terminals for screw clamps and terminals for lug.

In both cases, the securing of the cables is performed by screws which must be properly tightened at the recommended torque. However, what is the difference between connection by screw clamps and connection by lugs or bars?

As an example to explain the difference, we have below the pictures of 2 small contactors:

- One LC1D18xx, with screw clamp terminals, on the left hand side.
- One LC1D126xx, ready for connection with lugs or bars, on the right hand side.

Note that the digit 6 added to the contactor reference between the current rating and the coil code identifies the type of terminals for lugs or bars.
On screw clamps terminals, the screws securing the cables can open the space of the terminal so that the cables or the cable ends can be inserted, one on the right side of the screw, the other one, if any, on the left side of the screw. But the opening of the screw (unscrewing) is limited and the screw always remains in the middle of the terminal space and cannot open more this space. A lug cannot be inserted.

On terminals for lugs or bars, the lug or the bar fitted on the cable comes with a hole. So, on the terminal of the contactor, the opening of the space is larger and the screw can be “more” unscrewed so that the lug or bar can be inserted and then, when the screw is screwed again, the screw can entirely cross the lug.

Note that this difference is not only for power terminals but also for coil and auxiliary contacts terminals.