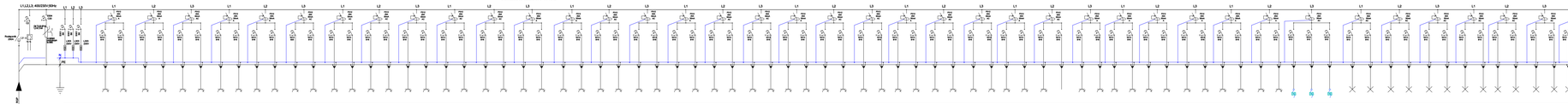SCHEMAT IDEOWY TPN-2